

=> d his

(FILE 'REGISTRY' ENTERED AT 15:44:35 ON 22 JAN 2004)

DEL HIS

L1 137 S H[AGV]EGTFTSDVSSYL[EQ]GQAAK[EQ]FIAWLVKGRG/SQSP
L2 128 SH[CAGVS] [NEDGSCTFMAYAVIL] [GSCTNQYAVILMF]TFTS[DE] [VY]S[SK]
L3 6 S L1 AND 37/SQL
L4 12 S L2 AND 37/SQL
L5 6 S L4 NOT L3
L6 393 S H[CAGVS] [NEDGSCTFMAYAVIL] [GSCTNQYAVILMF]TFTS[DE] [VY]S[SK]YL[DE]
L7 23 S L6 AND 37/SQL
L8 23 S L3-L5,L7
L9 11 S L7 NOT L3-L5

FILE 'HCAPLUS' ENTERED AT 16:18:02 ON 22 JAN 2004

L10 75 S L3-L5
L11 5 S L9
L12 76 S L10,L11

FILE 'REGISTRY' ENTERED AT 16:18:34 ON 22 JAN 2004

L13 370 S L1,L2,L6 NOT L8

FILE 'HCAPLUS' ENTERED AT 16:18:37 ON 22 JAN 2004

L14 166 S L13
L15 1 S WO99-US30395/AP,PRN
L16 1 S US98-113499#/AP,PRN
L17 1 S L15,L16
L18 0 S L17 AND L12
L19 1 S L17 AND L14
SEL RN

FILE 'REGISTRY' ENTERED AT 16:21:18 ON 22 JAN 2004

L20 7 S E1-E7
L21 3 S L20 AND SQL/FA
L22 4 S L20 AND GLUCAGON
L23 4 S L21,L22
L24 1 S L23 AND L1-L9
L25 3 S L23 NOT L24
L26 1 S 89750-14-1
L27 3 S L23 NOT L26

FILE 'HCAPLUS' ENTERED AT 16:24:00 ON 22 JAN 2004

L28 45 S L27
L29 1102 S L26
L30 30 S L28 AND L29
L31 41 S L28 AND GLUCAGON
L32 28 S L28 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L33 26 S L30,L31 AND L32
L34 28 S L32,L33
L35 61 S L12 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L36 20 S L35 AND L29
L37 60 S L35 AND GLUCAGON

FILE 'REGISTRY' ENTERED AT 16:25:47 ON 22 JAN 2004

L38 3 S L20 NOT L23
L39 2 S L38 NOT LYSINE

FILE 'HCAPLUS' ENTERED AT 16:26:20 ON 22 JAN 2004

L40 13409 S L39
L41 5 S L40 AND L28
L42 1 S L40 AND L12
L43 8 S L40 AND L14
L44 5 S L41-L43 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)

L45 4 S L28 AND L44
L46 5 S L44,L45
E BRADER M/AU
E PEKAR A/AU
L47 30 S E3,E4,E10-E12
E BRADER M/AU
L48 35 S E4-E6
L49 0 S L47,L48 AND L12
L50 1 S L47,L48 AND L14
L51 1 S L47,L48 AND L28
L52 1 S L50,L51
L53 5 S L46,L52
L54 41 S L34,L36
L55 18 S L54 AND (PHARMACEUT? OR PHARMACOL?)/SC,SX
L56 17 S L54 AND (L27 OR L13) (L)THU/RL
L57 20 S L55,L56
L58 21 S L53,L57

=> fil reg

FILE 'REGISTRY' ENTERED AT 16:31:50 ON 22 JAN 2004
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 21 JAN 2004 HIGHEST RN 640234-51-1
DICTIONARY FILE UPDATES: 21 JAN 2004 HIGHEST RN 640234-51-1

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d sqide can tot 127

L27 ANSWER 1 OF 3 REGISTRY COPYRIGHT 2004 ACS on STN
RN 194551-05-8 REGISTRY
CN Glycine, L-histidyl-L-valyl-L- α -glutamylglycyl-L-threonyl-L-
phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-
L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutaminy-L-alanyl-L-alanyl-
L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-
tryptophyl-L-leucyl-L-valyl-L-lysylglycyl-L-arginyl- (9CI) (CA INDEX
NAME)

OTHER NAMES:

CN 112: PN: W00198331 TABLE: 1 claimed protein sequence
CN 1: PN: W00012116 SEQID: 4 claimed protein
CN 1: PN: W00247715 SEQID: 1 claimed sequence
CN 29: PN: W003014318 SEQID: 26 claimed sequence
CN 54: PN: W00198331 TABLE: 1 claimed protein sequence
CN 59: PN: W003058203 SEQID: 59 unclaimed sequence
CN 5: PN: W00155213 SEQID: 5 claimed sequence
CN 6: PN: W00247716 PAGE: 59 claimed protein
CN Glucagon-related peptide 1 (synthetic Val-isoform)

FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 31

PATENT ANNOTATIONS (PNTE):

Sequence	Patent
Source	Reference
Not Given	WO2000012116
	claimed
	SEQID 4

	WO2001055213
	claimed
	SEQID 5

	WO2001098331
	claimed
	TABLE 1

	WO2002047715
	claimed
	SEQID 1

	WO2002047716
	claimed PAGE
	59

SEQ 1 HVEGTFTSDV SSYLEGQAAK EFWLWKGR G

RELATED SEQUENCES AVAILABLE WITH SEQLINK

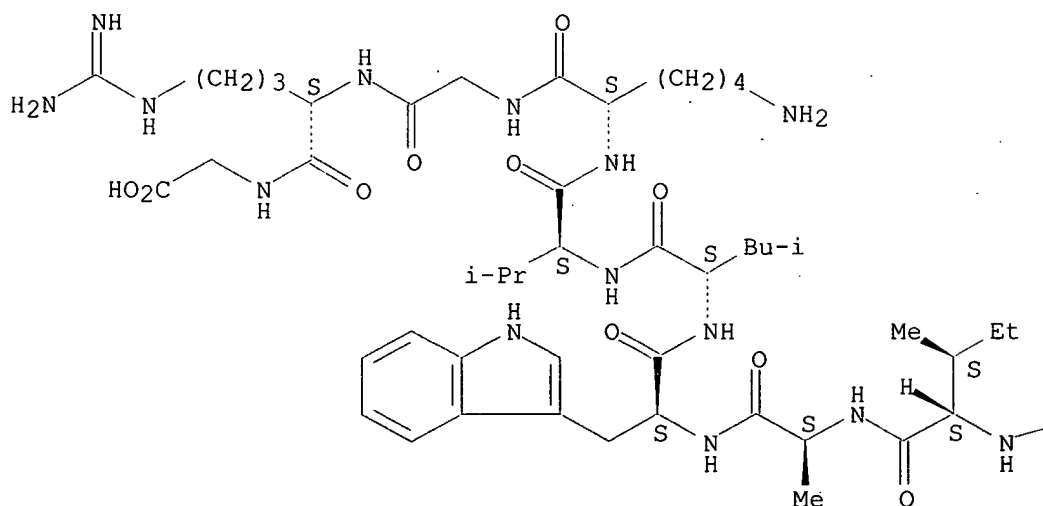
MF C153 H232 N40 O47

SR CA

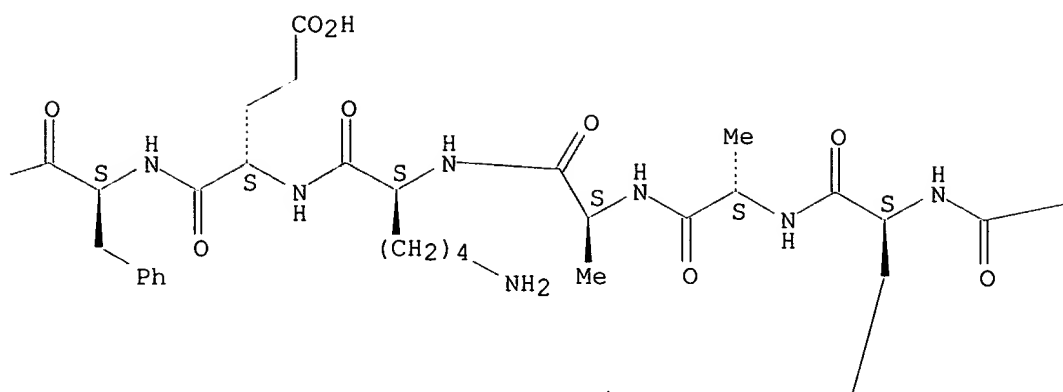
LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

Absolute stereochemistry.

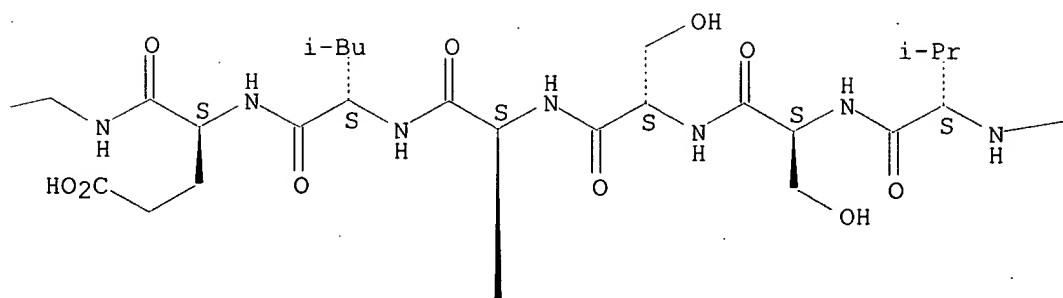
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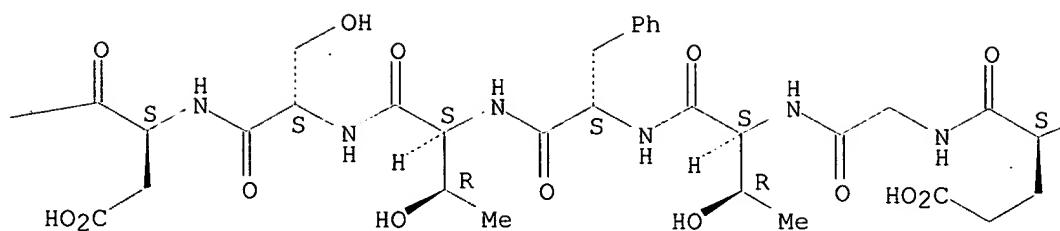
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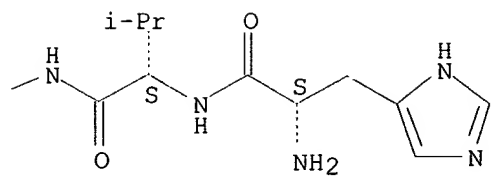
PAGE 1-C



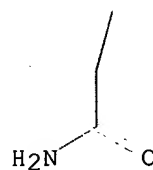
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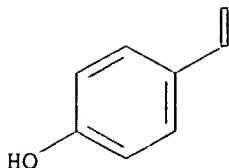
PAGE 1-E



PAGE 2-B



PAGE 2-C



22 REFERENCES IN FILE CA (1907 TO DATE)
 3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 22 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:35961
 REFERENCE 2: 139:333128
 REFERENCE 3: 139:302514
 REFERENCE 4: 139:174286
 REFERENCE 5: 139:80301
 REFERENCE 6: 139:26621
 REFERENCE 7: 138:298125
 REFERENCE 8: 138:180738
 REFERENCE 9: 137:52370
 REFERENCE 10: 137:42097

L27 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2004 ACS on STN

RN **127650-06-0** REGISTRY

CN L-Lysine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutamyl-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN **Glucagon-related peptide 1 (Rana catesbeiana), 3-L-glutamic acid-10-L-valine-16-glycine-17-L-glutamine-23-L-isoleucine-24-L-alanine-27-L-valine-29-deglycine-30-de-L-arginine-31-de-L-proline-32-de-L-lysine-**

OTHER NAMES:

CN 26: PN: WO03014318 SEQID: 23 claimed sequence
 CN 27: PN: WO0009666 SEQID: 4 unclaimed sequence
 CN 3: PN: WO0028067 PAGE: 16 unclaimed protein
 CN 6: PN: US20030221201 SEQID: 7 unclaimed sequence
 CN **Glucagon-like peptide I (7-34)**
 FS PROTEIN SEQUENCE; STEREOSEARCH
 SQL **28**

PATENT ANNOTATIONS (PNTE):

Sequence |Patent

Source |Reference

=====+=====

Not Given|WO2000009666

|unclaimed

|SEQID 4

-----+-----

|WO2000028067

unclaimed
PAGE 16

SEQ 1 HAEGTFTSDV SSYLEGQAAK EFWALVK

RELATED SEQUENCES AVAILABLE WITH SEQLINK

DR 186462-39-5, 270056-56-9

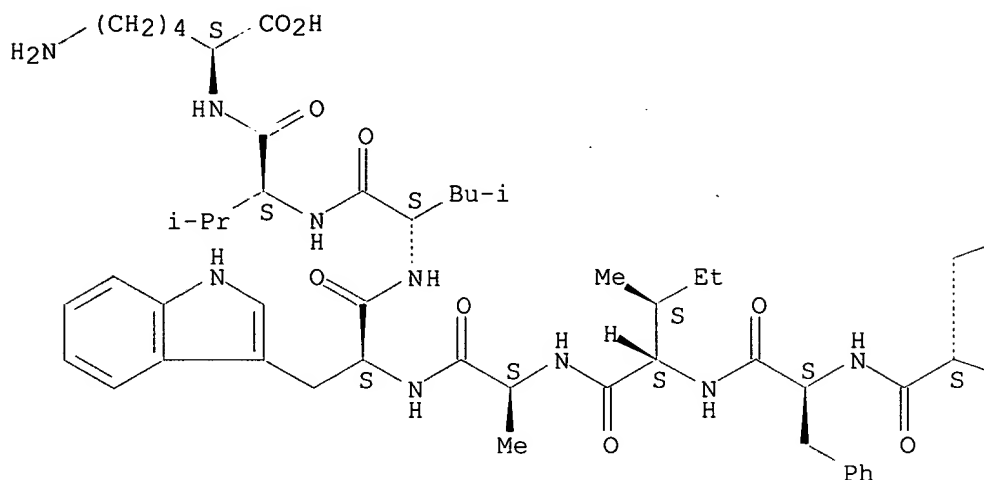
MF C141 H210 N34 O44

SR CA

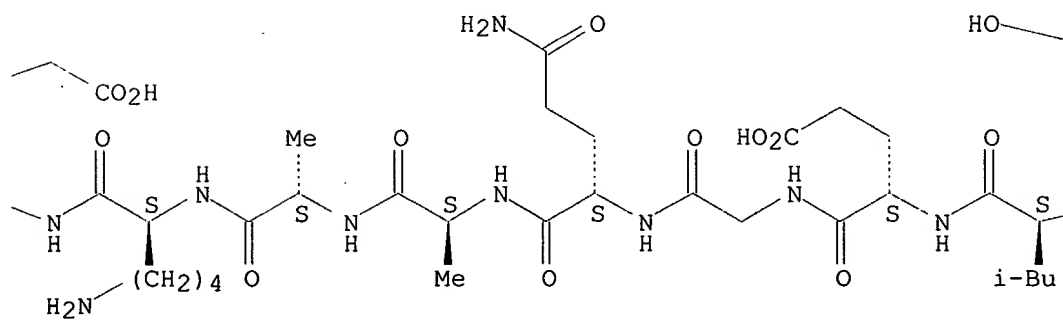
LC STN Files: CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL

Absolute stereochemistry.

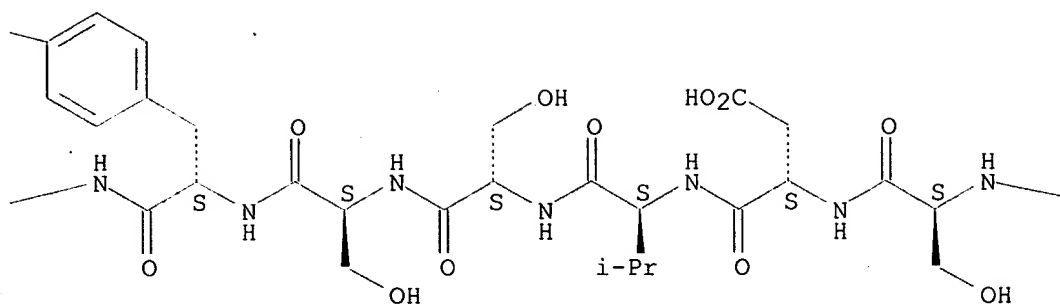
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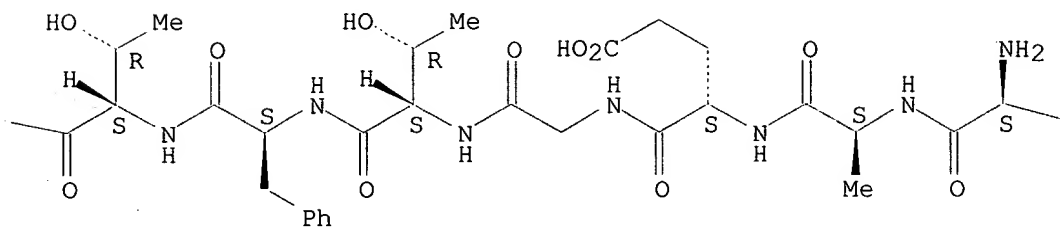
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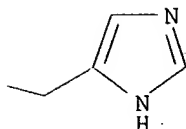
PAGE 1-C



PAGE 1-D



PAGE 1-E



17 REFERENCES IN FILE CA (1907 TO DATE)
18 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:8762
REFERENCE 2: 138:180738
REFERENCE 3: 135:376777
REFERENCE 4: 135:200441
REFERENCE 5: 133:64006
REFERENCE 6: 133:3760
REFERENCE 7: 132:175839
REFERENCE 8: 130:247048
REFERENCE 9: 129:23726
REFERENCE 10: 126:127176

L27 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2004 ACS on STN

RN 123475-28-5 REGISTRY

CN Glycine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutaminy-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl-L-lysyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glucagon-related peptide 1 (*Rana catesbeiana*), 3-L-glutamic acid-10-L-valine-16-glycine-17-L-glutamine-23-L-isoleucine-24-L-alanine-27-L-valine-30-de-L-arginine-31-de-L-proline-32-de-L-lysine-

OTHER NAMES:

CN 26: PN: WO0009666 SEQID: 3 unclaimed sequence
CN 27: PN: WO03014318 SEQID: 24 claimed sequence
CN 7: PN: US20030221201 SEQID: 8 unclaimed sequence
CN Glucagon-like peptide I (7-35)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 29

PATENT ANNOTATIONS (PNTE):
Sequence | Patent

Source |Reference
=====+=====

Not Given	WO2000009666
	unclaimed
	SEQID 3

SEQ 1 HAEGTFTSDV SSYLEGQAAK EFWLVLVG

RELATED SEQUENCES AVAILABLE WITH SEQLINK

DR 186462-38-4

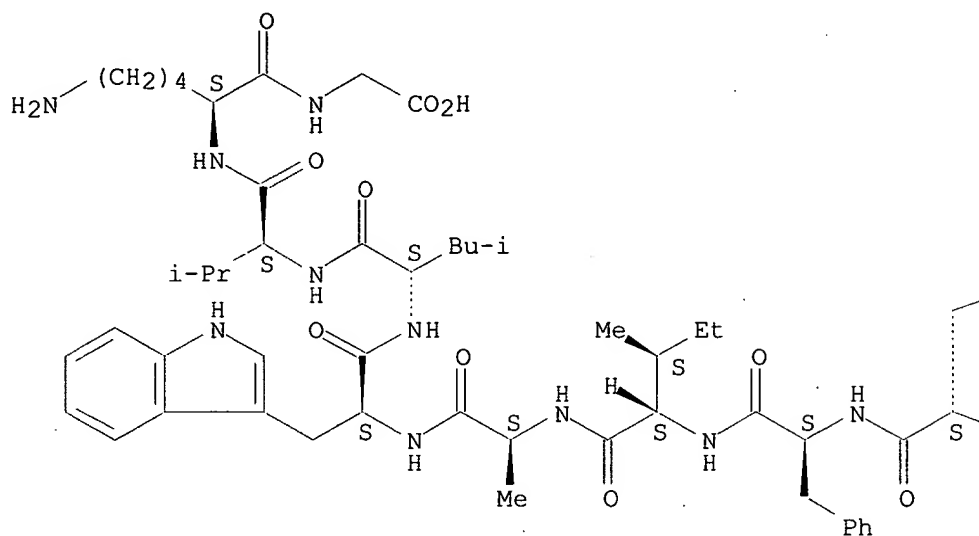
MF C143 H213 N35 O45

SR CA

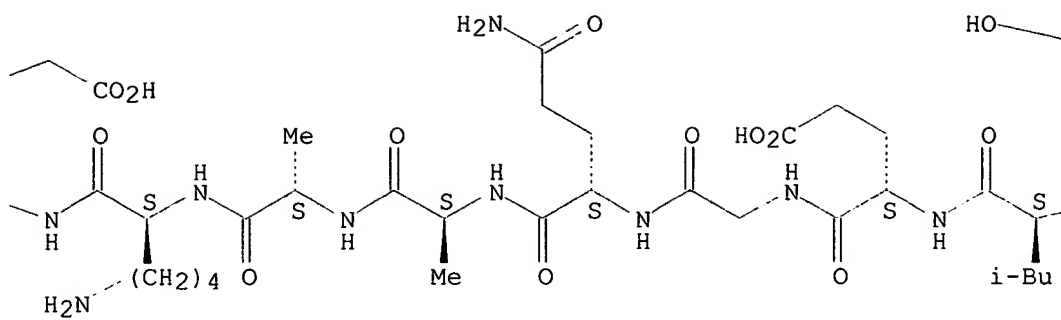
LC STN Files: CA, CAPLUS, TOXCENTER, USPAT2, USPATFULL

Absolute stereochemistry.

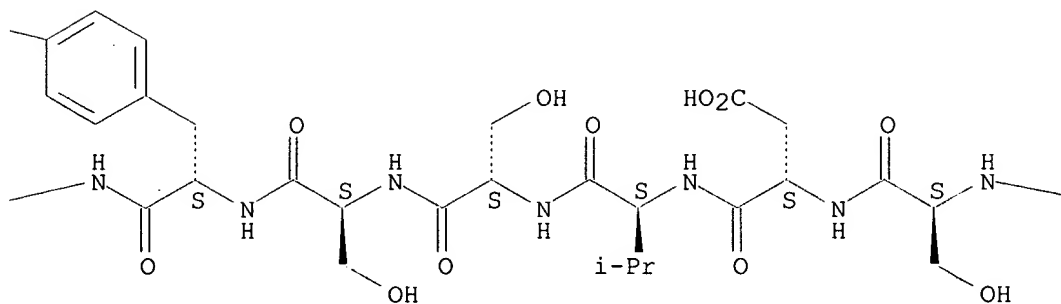
PAGE 1-A



PAGE 1-B



PAGE 1-C



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REFERENCE	1:	140:8762
REFERENCE	2:	138:180738
REFERENCE	3:	135:273221
REFERENCE	4:	135:200441
REFERENCE	5:	135:122756
REFERENCE	6:	133:64006

REFERENCE 7: 132:175839
REFERENCE 8: 130:247048
REFERENCE 9: 129:23726
REFERENCE 10: 128:244341

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L26 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN
RN 89750-14-1 REGISTRY
CN Glucagon-like peptide I (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Glucagon-related peptide I
OTHER NAMES:
CN GLP 1
CN Glucagon-related peptide 1
MF Unspecified
CI COM, MAN
LC STN Files: AGRICOLA, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CIN,
EMBASE, IPA, MEDLINE, MRCK*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
1096 REFERENCES IN FILE CA (1907 TO DATE)
94 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1102 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:42466
REFERENCE 2: 140:36218
REFERENCE 3: 140:35963
REFERENCE 4: 140:35961
REFERENCE 5: 140:35690
REFERENCE 6: 140:28048
REFERENCE 7: 140:27832
REFERENCE 8: 140:25180
REFERENCE 9: 140:24699
REFERENCE 10: 140:23485

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L39 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2004 ACS on STN
RN 9002-92-0 REGISTRY
CN Poly(oxy-1,2-ethanediyl), α -dodecyl- ω -hydroxy- (9CI) (CA
INDEX NAME)
OTHER NAMES:
CN α -Dodecyl- ω -hydroxypoly(oxy-1,2-ethanediyl)
CN α -Dodecyl- ω -hydroxypoly(oxyethylene)
CN 40L
CN 40L (polyether)
CN Actinol L 3

CN Actinol L 7
CN Adeka Carpol MBF 100
CN Adekatol LA 1275
CN Adekatol LA 50
CN Aethoxysklerol
CN Aetoxisclerol
CN Akyporox RLM 160
CN Akyporox RLM 22
CN Akyporox RLM 230
CN Akyporox RLM 40
CN Aldosperse L 9
CN Alkasurf LAN 1
CN Alkasurf LAN 3
CN Arapol 0712
CN Atlas G 2133
CN Atlas G 3705
CN Atlas G 3707
CN Atlas G 4829
CN Atmer 135
CN B 205
CN Base LP 12
CN BL 2
CN BL 9
CN BL 9 (polyglycol)
CN BL 9EX
CN Blaunon EL 1503P
CN Blaunon EL 1509
CN Brij 22
CN Brij 23
CN Brij 30
CN Brij 30ICI
CN Brij 30SP
CN Brij 35
CN Brij 35L
CN Brij 35P
CN Brij 36T
CN Calgene 40L
CN Carsonol L 2
CN Carsonol L 3
CN Chemal LA 23
CN Chemal LA 4
CN Chimipal AE 3
CN Cimigel
CN Conion 275-100
CN Conion 275-20

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for
DISPLAY

DR 503027-85-8, 504414-58-8, 6540-99-4, 8027-11-0, 9015-55-8, 9079-21-4,
11106-34-6, 1334-72-1, 1341-05-5, 122779-58-2, 53241-34-2, 54351-54-1,
54398-17-3, 56590-57-9, 56939-70-9, 57244-90-3, 124401-71-4, 55599-84-3,
55892-94-9, 56093-86-8, 64772-19-6, 62229-27-0, 101840-74-8, 102329-60-2,
102342-03-0, 106254-08-4, 106254-09-5, 50815-85-5, 50815-86-6, 51426-13-2,
61373-94-2, 61710-38-1, 37231-23-5, 37343-87-6, 137736-73-3, 138100-08-0,
69344-85-0, 71932-08-6, 71636-71-0, 141875-75-4, 147398-17-2, 148093-10-1,
152206-24-1, 86547-02-6, 86727-31-3, 87296-34-2, 31798-98-8, 39316-02-4,
39316-41-1, 39363-77-4, 53026-66-7, 101008-55-3, 106856-65-9, 176235-62-4,
176596-95-5, 183117-57-9, 186762-97-0, 189388-50-9, 191546-41-5,
201746-17-0, 221642-91-7, 234761-81-0, 234761-82-1, 234761-83-2,
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459409-03-1

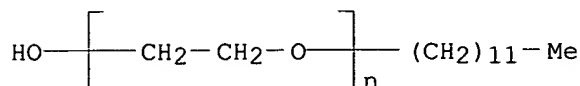
MF (C2 H4 O)n C12 H26 O
CI PMS, COM
PCT Polyether

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, HSDB*, IFICDB, IFIPAT, IFIUDB, IMSCOSEARCH, IMSPATENTS, IMSRESEARCH, IPA, MEDLINE, MRCK*, MSDS-OHS, PDLCOM*, PROMT, RTECS*, TOXCENTER, ULIDAT, USAN, USPAT2, USPATFULL

(*File contains numerically searchable property data)

Other Sources: DSL**, TSCA**, WHO

(**Enter CHEMLIST File for up-to-date regulatory information)



8589 REFERENCES IN FILE CA (1907 TO DATE)

205 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

8606 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:52390

REFERENCE 2: 140:48020

REFERENCE 3: 140:47600

REFERENCE 4: 140:47577

REFERENCE 5: 140:47037

REFERENCE 6: 140:35038

REFERENCE 7: 140:17758

REFERENCE 8: 140:14524

REFERENCE 9: 140:9848

REFERENCE 10: 140:8788

L39 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2004 ACS on STN

RN 77-86-1 REGISTRY

CN 1,3-Propanediol, 2-amino-2-(hydroxymethyl)- (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN 2-Amino-2-(hydroxymethyl)propane-1,3-diol

CN 2-Amino-2-methylol-1,3-propanediol

CN Addex-Tham

CN Aminotri(hydroxymethyl)methane

CN Aminotrimethylolmethane

CN Aminotris(hydroxymethyl)methane

CN Methanamine, 1,1,1-tris(hydroxymethyl)-

CN NSC 103026

CN NSC 6365

CN NSC 65434

CN Pehanorm

CN Sarkosyl

CN Talatrol

CN TAM

CN TAM (buffering agent)

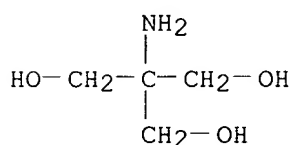
CN THAM

CN Tri Amino

CN Tri(hydroxymethyl)methylamine

CN Trigmo base

CN Triladyl
 CN Trimethylolaminomethane
 CN Tris
 CN Tris (buffering agent)
 CN Tris Amino
 CN Tris Amino Crystal
 CN Tris buffer
 CN Tris(hydroxymethyl)aminomethane
 CN Tris(hydroxymethyl)methanamine
 CN Tris(hydroxymethyl)methylamine
 CN Tris(methylolamino)methane
 CN Tris-steril
 CN Trisamin
 CN Trisamine
 CN Trisaminol
 CN Trispuffer
 CN Trizma
 CN Trometamol
 CN Trometamole
 CN Tromethamine
 CN Tromethane
 CN Tromethanmin
 CN Tutofusin tris
 FS 3D CONCORD
 DR 25149-07-9, 68755-45-3, 83147-39-1, 108195-86-4
 MF C4 H11 N O3
 CI COM
 LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*,
 BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT,
 CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU,
 DETHERM*, DIOGENES, DRUGU, EMBASE, GMELIN*, HODOC*, HSDB*, IFICDB,
 IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PIRA, PROMT,
 RTECS*, SPECINFO, TOXCENTER, USAN, USPAT2, USPATFULL, VETU
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**, WHO
 (**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4817 REFERENCES IN FILE CA (1907 TO DATE)
 296 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 4828 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 71 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 140:52154
 REFERENCE 2: 140:47577
 REFERENCE 3: 140:47374
 REFERENCE 4: 140:43272
 REFERENCE 5: 140:38376

REFERENCE 6: 140:38262
 REFERENCE 7: 140:35957
 REFERENCE 8: 140:30264
 REFERENCE 9: 140:23631
 REFERENCE 10: 140:19605

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 16:33:19 ON 22 JAN 2004

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FILE COVERS 1907 - 22 Jan 2004 VOL 140 ISS 4
 FILE LAST UPDATED: 21 Jan 2004 (20040121/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all tot 158

L58 ANSWER 1 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2003:1013109 HCAPLUS
 ED Entered STN: 31 Dec 2003
 TI In vivo production and delivery of insulinotropin or erythropoietin for anemia gene therapy
 IN Selden, Richard F.; Treco, Douglas; Heartlein, Michael W.
 PA Transkaryotic Therapies, Inc., USA
 SO U.S., 26 pp., Cont.-in-part of U.S. Ser. No. 446,912.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C12N015-85
 ICS C07H021-04
 NCL 435325000; 435455000; 435461000; 435352000; 435366000; 435360000;
 435357000; 435069100; 435069400; 435070100
 CC 1-1 (Pharmacology)
 Section cross-reference(s): 3, 2, 13
 FAN.CNT 10

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6670178	B1	20031230	US 2000-552709	20000419 <--
	EP 750044	A2	19961227	EP 1996-202037	19921105 <--
	EP 750044	A3	19970115		
	EP 750044	B1	20020807		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE				
	EP 1221477	A2	20020710	EP 2001-204619	19921105 <--

EP 1221477 A3 20020724
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, IE
 JP 2003174897 A2 20030624 JP 2002-359926 19921105 <--
 US 5994127 A 19991130 US 1994-334455 19941104 <--
 US 6048524 A 20000411 US 1995-446909 19950522 <--
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 US 6355241 B1 20020312 US 1999-420861 19991019 <--
 US 2003147868 A1 20030807 US 2002-299052 20021118 <--
 PRAI US 1992-911533 A1 19920710 <--
 US 1994-334455 A3 19941104 <--
 US 1995-446912 A2 19950522 <--
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 US 1995-451894 A1 19950526 <--
 US 1999-312245 A1 19990514
 AB The present invention relates to transfected primary and secondary somatic cells of vertebrate origin, particularly mammalian origin, transfected with exogenous genetic material (DNA) that encodes erythropoietin or an insulinotropin (e.g., derivs. of **glucagon**-like peptide 1 (GLP-1)), methods by which primary and secondary cells are transfected to include exogenous genetic material encoding erythropoietin or an insulinotropin, methods of producing clonal cell strains or heterogenous cell strains that express erythropoietin or an insulinotropin, methods of gene therapy, in which the transfected primary or secondary cells are used, and methods of producing antibodies using the transfected primary or secondary cells. The present invention includes primary and secondary somatic cells, such as fibroblasts, keratinocytes, epithelial cells, endothelial cells, glial cells, neural cells, formed elements of the blood, muscle cells, other somatic cells that can be cultured, and somatic cell precursors, which have been transfected with exogenous DNA encoding EPO or an insulinotropin that is stably integrated into their genomes or is expressed in the cells episomally. In particular, vectors expressing human erythropoietin (plasmid pXEPO1 and pE3neoEPO) and **glucagon** insulinotropin derivs., such as GLP-1 (7-37, or 7-36; pXGLP1) in fusion with a signal peptide, such as 26-amino acid signal peptide of human growth hormone under the control of mouse metallothionein promoter are constructed. These vectors are used to transfect primary or secondary skin fibroblasts from human and rabbit which demonstrates stable secreted expression of erythropoietin or insulinotropin. The stably transfected rabbit fibroblasts clone is further used in mouse implantation and expression of biol. active human erythropoietin in implanted mice are observed. Specifically, it clearly demonstrates that normal skin fibroblasts that have been genetically engineered to express and secrete HEPO can: (1) survive in vivo to deliver HEPO to an animal's systemic circulation for up to 2 mo, and (2) the hEPO produced is biol. functional, serving to prevent the drop in hematocrit observed in the frequently bled control animals, and resulting in a net increase in HCT even when animals were challenged with a bleeding schedule that produces an anemic response in control animals.
 ST insulinotropin erythropoietin transformation vector somatic cell anemia gene therapy; erythropoietin transformation vector somatic cell anemia gene therapy
 IT Mutation
 (deletion, GLP-1 insulinotropin derivs. containing; in vivo production and delivery of insulinotropin or erythropoietin for anemia gene therapy)
 IT Hematocrit
 (enzyme assay of; in vivo production and delivery of insulinotropin or

erythropoietin for anemia gene therapy)

IT Skin
(fibroblast of, transformation of; in vivo production and delivery of
insulinotropin or erythropoietin for anemia gene therapy)

IT Liver
(hepatocyte, transformation of; in vivo production and delivery of
insulinotropin or erythropoietin for anemia gene therapy)

IT Anemia (disease)
Blood cell
Gene therapy
Transformation, genetic
Transplant and Transplantation
(in vivo production and delivery of insulinotropin or erythropoietin for
anemia gene therapy)

IT Mutation
(insertion, GLP-1 insulinotropin derivs. containing; in vivo production and
delivery of insulinotropin or erythropoietin for anemia gene therapy)

IT Skin
(keratinocyte, transformation of; in vivo production and delivery of
insulinotropin or erythropoietin for anemia gene therapy)

IT Plasmid vectors
(pE3neoEPO, human EPO gene on; in vivo production and delivery of
insulinotropin or erythropoietin for anemia gene therapy)

IT Plasmid vectors
(pXEPO1, human EPO gene on; in vivo production and delivery of
insulinotropin or erythropoietin for anemia gene therapy)

IT Plasmid vectors
(pXGLP1, human GLP-1 (7-37 or 36) on; in vivo production and delivery of
insulinotropin or erythropoietin for anemia gene therapy)

IT Secretion (process)
(protein, directed by signal peptide; in vivo production and delivery of
insulinotropin or erythropoietin for anemia gene therapy)

IT Signal peptides
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Uses)
(recombinant erythropoietin or insulinotropin containing; in vivo production
and delivery of insulinotropin or erythropoietin for anemia gene
therapy)

IT Genetic markers
(selectable, insulinotropin or EPO vector containing; in vivo production and
delivery of insulinotropin or erythropoietin for anemia gene therapy)

IT Gene, animal
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Uses)
(selection marker for nutritional auxotrophy; in vivo production and
delivery of insulinotropin or erythropoietin for anemia gene therapy)

IT Cytotoxic agents
Drug resistance
(selection marker for; in vivo production and delivery of insulinotropin or
erythropoietin for anemia gene therapy)

IT Human
Rabbit
(skin fibroblast of; in vivo production and delivery of insulinotropin or
erythropoietin for anemia gene therapy)

IT Human
Mammalia
(somatic cell of; in vivo production and delivery of insulinotropin or
erythropoietin for anemia gene therapy)

IT Animal cell
(somatic, transformation of; in vivo production and delivery of
insulinotropin or erythropoietin for anemia gene therapy)

IT Mutation
(substitution, GLP-1 insulinotropin derivs. containing; in vivo production
and

delivery of insulinotropin or erythropoietin for anemia gene therapy)

IT Endothelium
Epithelium
Fibroblast
Muscle
Nerve
Neuroglia
(transformation of; in vivo production and delivery of insulinotropin or erythropoietin for anemia gene therapy)

IT 11096-26-7P, Erythropoietin 89750-14-1DP, GLP-1, insulinotropin derivs. 106612-94-6DP, derivs. 118549-37-4DP, Insulinotropin, derivs. 123475-28-5DP, derivs. 127650-06-0DP, Glucagon-like peptide I(7-34), derivs.
RL: BPN (Biosynthetic preparation); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(in vivo production and delivery of insulinotropin or erythropoietin for anemia gene therapy)

IT 639540-58-2, 1: PN: US6670178 SEQID: 1 unclaimed DNA 639540-59-3, 2: PN: US6670178 SEQID: 2 unclaimed DNA 639540-60-6, 3: PN: US6670178 SEQID: 3 unclaimed DNA 639540-61-7, 4: PN: US6670178 SEQID: 4 unclaimed DNA 639540-62-8, 5: PN: US6670178 SEQID: 5 unclaimed DNA 639540-63-9, 6: PN: US6670178 SEQID: 6 unclaimed DNA 639540-64-0, 7: PN: US6670178 SEQID: 7 unclaimed DNA 639540-65-1, 8: PN: US6670178 SEQID: 8 unclaimed DNA
RL: PRP (Properties)
(unclaimed nucleotide sequence; in vivo production and delivery of insulinotropin or erythropoietin for anemia gene therapy)

RE.CNT 150 THERE ARE 150 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L58 ANSWER 2 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:300601 HCAPLUS

DN 138:298126

ED Entered STN: 18 Apr 2003

TI Compositions and methods for treating peripheral vascular disease with GLP-1 compounds

IN Hathaway, David R.; Coolidge, Thomas R.

PA USA

SO U.S. Pat. Appl. Publ., 12 pp., Cont.-in-part of U.S. Ser. No. 851,738.
 CODEN: USXXCO

DT Patent

LA English

IC ICM A61K038-17

ICS A61K038-06; A61K031-70; A61K038-44; A61K031-355; A61K031-405;
 A61K033-00

NCL 514012000; 424094400; 514018000; 514419000; 514458000; 514023000;
 424722000

CC 2-6 (Mammalian Hormones)

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003073626	A1	20030417	US 2002-91258	20020305
	US 6284725	B1	20010904	US 1999-302596	19990430 <--
	US 2002055460	A1	20020509	US 2001-851738	20010509 <--
PRAI	US 1999-302596	A3	19990430		
	US 2001-851738	A2	20010509		
	US 1998-103498P	P	19981008	<--	

AB The present invention relates to methods of treating intermittent claudication comprising administering glucagon-like peptide-1 (GLP-1) mols. to subjects suffering therefrom. A method of treating or preventing skeletal muscle injury caused by ischemia and/or reperfusion in a subject comprising the step of administering a therapeutically effective amount of GLP-1 mol. is also claimed. The subject can also be administered free radical scavengers, glucose, or potassium. The GLP-1 compound is administered by an infusion pump or by s.c. injection of a slow-release formulation.

ST peripheral vascular disease treatment GLP1; intermittent claudication treatment GLP1

IT Anti-ischemic agents
 Cardiovascular agents
 Human

(comps. and methods for treating peripheral vascular disease with GLP-1 compds.)

IT Radical scavengers
 (comps. and methods for treating peripheral vascular disease with GLP-1 compds. in combination with radical scavengers)

IT Heart, disease
 (infarction; comps. and methods for reducing heart infarction by treatment with GLP-1 compds.)

IT Drug delivery systems
 (infusion pumps; comps. and methods for treating peripheral vascular disease with GLP-1 compds.)

IT Reperfusion
 (injury; comps. and methods for treating peripheral vascular disease

- with GLP-1 compds.)
- IT Artery, disease
(intermittent claudication; compns. and methods for treating peripheral vascular disease with GLP-1 compds.)
- IT Heart, disease
Muscle, disease
(ischemia; compns. and methods for treating peripheral vascular disease with GLP-1 compds.)
- IT Blood vessel, disease
(peripheral; compns. and methods for treating peripheral vascular disease with GLP-1 compds.)
- IT Drug delivery systems
(slow-release; compns. and methods for treating peripheral vascular disease with GLP-1 compds.)
- IT 510788-25-7
RL: PRP (Properties)
(Unclaimed; compns. and methods for treating peripheral vascular disease with GLP-1 compds.)
- IT 89750-14-1D, Glucagon-like peptide I, compds. 106612-94-6
, Human GLP-1(7-37) 107444-51-9 141732-76-5, Exendin-4 161748-29-4
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(compns. and methods for treating peripheral vascular disease with GLP-1 compds.)
- IT 50-99-7, D-Glucose, biological studies 7440-09-7, Potassium, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(compns. and methods for treating peripheral vascular disease with GLP-1 compds. in combination with glucose and potassium)
- IT 70-18-8, Glutathione, biological studies 73-31-4, Melatonin 1406-18-4, Vitamin E 9054-89-1, Superoxide dismutase
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(compns. and methods for treating peripheral vascular disease with GLP-1 compds. in combination with radical scavengers)
- IT 510788-20-2 510788-21-3 510788-22-4 510788-23-5 510788-24-6 510788-26-8
RL: PRP (Properties)
(unclaimed protein sequence; compns. and methods for treating peripheral vascular disease with GLP-1 compds.)
- IT 176253-51-3 305790-37-8
RL: PRP (Properties)
(unclaimed sequence; compns. and methods for treating peripheral vascular disease with GLP-1 compds.)

L58 ANSWER 3 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:721487 HCAPLUS
DN 135:273221
ED Entered STN: 03 Oct 2001
TI Preparation of lipophilic human glucagon-like peptide-1 derivatives with protracted action profiles
IN Knudsen, Liselotte; Huusfeldt, Per Olaf; Nielsen, Per Franklin; Kaarsholm, Niels C.; Olsen, Helle Birk; Bjorn, Soren Erik; Pedersen, Freddy Zimmerdahl; Madsen, Kjeld
PA Novo Nordisk A/s, Den.
SO U.S., 136 pp., Cont.-in-part of U.S. Ser. No. 38,432, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC A61K039-16; A61K038-26; C07K014-00; C07K146-05
NCL 514012000
CC 34-3 (Amino Acids, Peptides, and Proteins)

Section cross-reference(s): 1, 63

FAN.CNT 12

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6268343	B1	20010731	US 1999-258750	19990226 <--
	WO 9808871	A1	19980305	WO 1997-DK340	19970822 <--
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
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	ZA 9901571	A	19990902	ZA 1999-1571	19990226 <--
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	US 2002025933	A1	20020228	US 2001-908534	20010718 <--
	US 2003199672	A1	20031023	US 2002-285079	20020819 <--
PRAI	DK 1996-931	A	19960830	<--	
	DK 1996-1259	A	19961108	<--	
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	US 1997-36255P	P	19970124	<--	
	US 1997-36226P	P	19970125	<--	
	WO 1997-DK340	A2	19970822	<--	
	US 1997-918810	B2	19970826	<--	
	DK 1998-263	A	19980227	<--	
	DK 1998-264	A	19980227	<--	
	DK 1998-268	A	19980227	<--	
	DK 1998-272	A	19980227	<--	
	DK 1998-274	A	19980227	<--	
	US 1998-38432	B2	19980311	<--	
	DK 1998-508	A	19980408	<--	
	DK 1998-509	A	19980408	<--	
	US 1998-82478P	P	19980421	<--	
	US 1998-82480P	P	19980421	<--	
	US 1998-84357P	P	19980421	<--	
	US 1998-82802P	P	19980423	<--	
	US 1997-35904P	P	19970124	<--	
	US 1997-35905P	P	19970124	<--	
	JP 1998-511183	A3	19970822	<--	
	US 1997-922200	B2	19970902	<--	
	DK 1998-271	A	19980227	<--	
	EP 1998-610006	A	19980313	<--	
	US 1998-78422P	P	19980318	<--	
	DK 1998-507	A	19980408	<--	
	US 1998-82479P	P	19980421	<--	
	US 1998-85789P	P	19980518	<--	
	US 1999-258187	B1	19990225		
	US 1999-258750	A2	19990226		
	US 1999-265141	A2	19990308		
	US 1999-398111	A1	19990916		

OS MARPAT 135:273221

AB The present invention relates to human glucagon-like peptide-1 (GLP-1) derivs. having a lipophilic substituent, compns. containing these derivs., and to methods for their preparation A claimed compound is His-Ala-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-Lys-Glu-Phe-Ile-Ala-Trp-Leu-Val-Arg-Gly-Arg-Gly. Thus, coupling of GLP-1(7-37)-OH with Me(CH₂)₁₂CO-Glu(OSu)-OCMe₃ (Su = succinimidyl) (preparation given), followed by deesterification with CF₃CO₂H and chromatog. purification

gave 8% bis-adduct Lys[Me(CH₂)₁₂CO- γ -Glu]26,34-GLP-1(7-37)-OH.

Several prepared lipophilic GLP-1 analogs were tested for protracted plasma concentration in pigs and were found to be much more persistent than

GLP-1(7-37).

In addition, the time of peak plasma concentration was found to vary within wide

limits depending on the particular lipophilic GLP-1 derivative selected. The efficacy of several prepared derivs. was tested by stimulation of cAMP in a cell line expressing cloned human GLP-1 receptor.

ST lipophilic **glucagon** like peptide prepn antidiabetic; antiobesity agent lipophilic **glucagon** like peptide

IT Carboxylic acids, preparation

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(dicarboxylic, long-chain, **glucagon**-like peptide conjugates; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT Fatty acids, preparation

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(**glucagon**-like peptide conjugates; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT Antidiabetic agents

Antiobesity agents

(preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT Peptides, preparation

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT 240133-31-7P 240133-32-8P 240133-33-9P

240133-35-1P 240480-97-1P 240480-98-2P 240480-99-3P

240481-01-0P 240481-02-1P 240481-03-2P 240481-04-3P

240481-05-4P 240481-06-5P 240481-07-6P 240481-08-7P

240481-09-8P 240481-10-1P 240481-11-2P 240481-12-3P

240481-13-4P 240481-22-5P 240481-24-7P

240481-25-8P 240481-27-0P 240481-32-7P

240481-33-8P 240481-35-0P 240482-41-1P 240482-42-2P

240482-43-3P 240482-44-4P 240482-45-5P 240483-55-0P 240483-71-0P

240497-59-0P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(**glucagon**-like peptide conjugates; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT 56-12-2, γ -Aminobutyric acid, reactions 107-95-9, β -Alanine

13406-98-9, 1-Piperidinecarboxylic acid 14565-47-0 22102-66-5

25456-76-2 55889-33-3 176435-11-3 240133-43-1 240133-44-2

240133-45-3 240133-46-4 240133-47-5 240133-48-6 240133-49-7

240133-50-0 240133-51-1 240481-37-2 240481-39-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(**glucagon**-like peptide conjugates; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT 14464-30-3P 111333-92-7P 240133-29-3P 240133-30-6P 240133-34-0P

240133-36-2P 240133-37-3P 240133-38-4P 240133-39-5P 240133-40-8P

240133-41-9P 240133-42-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(glucagon-like peptide conjugates; preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)

IT 56-81-5, Glycerol, biological studies 69-65-8, Mannitol 99-76-3, Methyl p-hydroxybenzoate 100-51-6, Benzenemethanol, biological studies 108-39-4, m-Cresol, biological studies 108-95-2, Phenol, biological studies 127-09-3, Sodium acetate 7440-66-6, Zinc, biological studies 7632-05-5, Sodium phosphate 7647-14-5, Sodium chloride, biological studies 11061-68-0, Human insulin

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(pharmaceutical composition; preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)

IT 106612-94-6

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use);

BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)

IT 87805-34-3DP, Glucagon-like peptide I (human), lipophilic derivs. 89750-14-1DP, Glucagon-related peptide I, lipophilic derivs. 99658-04-5DP, lipophilic derivs. 104364-62-7DP, Glucagon-related peptide I (guinea pig clone gpGCG-2), lipophilic derivs. 107444-51-9DP, lipophilic derivs. 121181-17-7DP, Glucagon-related peptide 1 (Octodon degus), lipophilic derivs. 123475-27-4DP, lipophilic derivs. 123475-28-5DP, lipophilic derivs. 123512-62-9DP, lipophilic derivs. 157569-66-9DP, lipophilic derivs. 157629-57-7DP, lipophilic derivs. 204521-54-0P 204521-55-1P 204521-56-2P 204521-57-3P 204521-58-4P 204521-59-5P 204521-81-3DP, lipophilic derivs. 204521-82-4DP, lipophilic derivs. 204521-83-5DP, lipophilic derivs. 204521-84-6DP, lipophilic derivs. 204521-85-7DP, lipophilic derivs. 204521-86-8DP, lipophilic derivs. 204521-87-9DP, lipophilic derivs. 204521-88-0DP, lipophilic derivs. 204521-89-1DP, lipophilic derivs. 204521-90-4DP, lipophilic derivs. 204521-91-5DP, lipophilic derivs. 204521-92-6DP, lipophilic derivs. 204655-84-5DP, lipophilic derivs. 204655-85-6DP, lipophilic derivs. 204655-86-7DP, lipophilic derivs. 204655-87-8P 204655-88-9P 204655-89-0DP, lipophilic derivs. 204655-90-3DP, lipophilic derivs. 204655-91-4DP, lipophilic derivs. 204655-92-5DP, lipophilic derivs. 204655-93-6DP, lipophilic derivs. 204655-94-7P 204655-96-9P 204655-97-0P 204655-98-1P 204655-99-2P 204656-00-8P 204656-01-9P 204656-02-0P 204656-03-1DP, lipophilic derivs. 204656-04-2DP, lipophilic derivs. 204656-05-3DP, lipophilic derivs. 204656-06-4DP, lipophilic derivs. 204656-07-5DP, lipophilic derivs. 204656-08-6P 204656-09-7P 204656-10-0P 204656-11-1P 204656-12-2DP, lipophilic derivs. 204656-13-3DP, lipophilic derivs. 204656-14-4DP, lipophilic derivs. 204656-15-5DP, lipophilic derivs. 204656-16-6P 204656-17-7P 204656-18-8P 204656-20-2P 204656-21-3P 204656-22-4DP, lipophilic derivs. 204656-24-6DP, lipophilic derivs. 204656-25-7P 204656-26-8P 204656-27-9P 204656-28-0P 204656-29-1DP, lipophilic derivs. 204656-30-4DP, lipophilic derivs. 204656-31-5P 204656-32-6DP, lipophilic derivs. 204656-33-7P 204656-34-8P 204656-35-9P 204656-36-0P 204656-37-1DP,

lipophilic derivs. 204656-38-2P 204656-39-3DP,
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 204656-78-0DP, lipophilic derivs. 204656-79-1DP,
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 204656-81-5DP, lipophilic derivs. 204656-82-6DP,
 lipophilic derivs. 204656-83-7DP, lipophilic derivs.
 204656-84-8DP, lipophilic derivs. 204656-85-9DP,
 lipophilic derivs. 204656-86-0DP, lipophilic derivs.
 204656-87-1DP, lipophilic derivs. 204656-88-2DP,
 lipophilic derivs. 204656-89-3DP, lipophilic derivs.
 204656-90-6DP, lipophilic derivs. 204656-91-7DP,
 lipophilic derivs. 204656-92-8DP, lipophilic derivs.
 204656-93-9DP, lipophilic derivs. 204656-94-0DP,
 lipophilic derivs. 204656-95-1DP, lipophilic derivs.
 204656-96-2DP, lipophilic derivs. 204656-97-3DP,
 lipophilic derivs. 204996-97-4P, NNC 901167

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)

IT 434-13-9, Lithocholic acid 14464-31-4 14464-32-5 45120-30-7,
 L-Glutamic acid α -tert-butyl ester 69888-86-4 128746-57-6
 146004-82-2 146004-83-3 146004-84-4 146004-85-5 204521-68-6
 204521-69-7 204521-70-0 204521-71-1 204521-72-2 204521-73-3
 204521-75-5 204655-83-4 204655-95-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)

IT 104211-94-1P 204521-61-9P 204521-63-1P 204521-65-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)

IT 204655-84-5 204655-85-6 204655-86-7 204655-89-0 204655-90-3
 204655-91-4 204655-93-6 204656-04-2 204656-05-3 204656-06-4
 204656-07-5 204656-12-2 204656-13-3 204656-15-5 204656-24-6
 204656-29-1 204656-32-6 204656-39-3 204656-42-8 204656-44-0
 204656-46-2 204656-48-4 204656-50-8
 204656-52-0 204656-53-1 204656-54-2 204656-55-3 204656-57-5

204656-62-2 204656-65-5 204656-66-6 204656-68-8 204656-69-9
 204656-73-5 204656-79-1 362514-47-4 362514-51-0
 362514-52-1 362514-59-8 362514-71-4 362514-72-5 362514-73-6
 362514-74-7 362514-75-8 362514-76-9 362514-77-0 362514-78-1
 362514-84-9 362514-90-7 362514-91-8 362514-92-9 362514-93-0
 362514-94-1 362514-95-2 362514-96-3 362514-97-4
 362514-98-5 362515-00-2 362515-01-3 362515-03-5 362515-04-6
 362515-05-7 362517-26-8 362517-42-8 362517-44-0 362517-45-1
 362517-46-2 362517-49-5 362517-51-9 362517-52-0
 362517-61-1

RL: PRP (Properties)

(unclaimed protein sequence; preparation of lipophilic human
glucagon-like peptide-1 derivs. with protracted action
 profiles)

IT 204655-92-5 204656-14-4 362014-49-1 362014-50-4 362014-51-5

RL: PRP (Properties)

(unclaimed sequence; preparation of lipophilic human **glucagon**-like
 peptide-1 derivs. with protracted action profiles)

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; WO 9011296 1990 HCAPLUS
- (2) Anon; WO 9111457 1991 HCAPLUS
- (3) Anon; WO 9507931 1995 HCAPLUS
- (4) Anon; WO 9531214 1995 HCAPLUS
- (5) Anon; EP 0708179 1996 HCAPLUS
- (6) Anon; WO 9629342 1996 HCAPLUS
- (7) Anon; WO 9629344 1996 HCAPLUS
- (8) Anon; WO 8706941 1997 HCAPLUS
- (9) Anon; WO 9808531 1998 HCAPLUS
- (10) Anon; WO 9808871 1998 HCAPLUS
- (11) Anon; WO 9808873 1998 HCAPLUS
- (12) Anon; WO 9819698 1998 HCAPLUS
- (13) Buckley; US 5545618 1996 HCAPLUS
- (14) Chen; US 5512549 1996 HCAPLUS
- (15) Clodfelter; Pharmaceutical Res 1998; V15(2), P254 HCAPLUS
- (16) Habener; US 5120712 1992 HCAPLUS
- (17) Habener; US 5614492 1997 HCAPLUS
- (18) Kim; J of Pharma, Sciences 1994, V83(8), P1175 HCAPLUS

L58 ANSWER 4 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:598461 HCAPLUS

DN 135:200441

ED Entered STN: 17 Aug 2001

TI Glucagon-like peptide-1 crystals

IN Hermeling, Ronald Norbert; Hoffmann, James Arthur; Narasimhan, Chakavarthy

PA USA

SO U.S. Pat. Appl. Publ., 17 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM A61K038-00

ICS C07K017-00; C07K016-00; C07K014-00; C07K001-00; A23J001-00

NCL 514012000

CC 63-6 (Pharmaceuticals)

Section cross-reference(s): 2

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2001014666	A1	20010816	US 1998-209799	19981211 <--
	US 6380357	B2	20020430		
	US 2003045464	A1	20030306	US 2001-997792	20011130 <--
	US 6555521	B2	20030429		
PRAI	US 1997-69728P	P	19971216	<--	

US 1998-209799 A1 19981211 <--

AB The invention provides individual tetragonal flat rod shaped or plate-like crystals of **glucagon**-like peptide-1 related mols., processes for their preparation, compns. and methods of use. The crystal preps. exhibit extended time action in vivo and are useful for treating diabetes, obesity and related conditions.

ST **glucagon** like peptide 1 crystal antidiabetic

IT Peptides, biological studies
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
 (GLP-1 analogs; **glucagon**-like peptide-1 crystals for preparation of extended-action pharmaceuticals)

IT Drug delivery systems
 (carriers; **glucagon**-like peptide-1 crystals for preparation of extended-action pharmaceuticals)

IT Drug delivery systems
 (extended-action; **glucagon**-like peptide-1 crystals for preparation of extended-action pharmaceuticals)

IT Antidiabetic agents
 Antiobesity agents
 Buffers
 Crystal morphology
 Crystallization
 Protein sequences
 Solvents
 pH
 (**glucagon**-like peptide-1 crystals for preparation of extended-action pharmaceuticals)

IT Alcohols, uses
 Disaccharides
 Monosaccharides
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (**glucagon**-like peptide-1 crystals for preparation of extended-action pharmaceuticals)

IT 54249-88-6, dipeptidyl peptidase IV
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
 (**glucagon**-like peptide-1 crystals for preparation of extended-action pharmaceuticals)

IT 50-69-1, Ribose 50-99-7, Glucose, uses 56-40-6, Glycine, uses 56-81-5, Glycerol, uses 56-84-8, Aspartic acid, uses 57-48-7, Fructose, uses 57-50-1, Sucrose, uses 59-23-4, Galactose, uses 63-42-3, Lactose 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 69-65-8, Mannitol 69-79-4, Maltose 71-23-8, Propanol, uses 77-86-1, Tris 99-20-7, Trehalose 127-09-3, Sodium acetate 631-61-8, Ammonium acetate 1758-51-6, Erythrose 6976-37-0, bis-tris 7440-66-6, Zinc, uses 7646-85-7, Zinc chloride, uses 7783-20-2, Ammonium sulfate, uses
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (**glucagon**-like peptide-1 crystals for preparation of extended-action pharmaceuticals)

IT 89750-14-1, **Glucagon**-like peptide I 106612-94-6
 123475-27-4 123475-28-5 127650-06-0
 138347-76-9 138347-77-0 170098-75-6 194551-05-8
 213754-29-1 213754-33-7 227472-22-2 352513-61-2
 352513-69-0 352513-70-3 352513-71-4
 352513-72-5 352513-73-6 352513-74-7
 352513-75-8 352681-26-6 355393-49-6 355393-50-9
 355393-52-1 355393-53-2 355470-33-6 355470-34-7 355804-31-8

355804-33-0

RL: PEP (Physical, engineering or chemical process); PRP (Properties);
THU (Therapeutic use); BIOL (Biological study); PROC (Process);
 USES (Uses)

(glucagon-like peptide-1 crystals for preparation of
 extended-action pharmaceuticals)

L58 ANSWER 5 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2001:566665 HCAPLUS
 DN 135:122756
 ED Entered STN: 06 Aug 2001
 TI Preparation of lipophilic human glucagon-like peptide-1
 derivatives with protracted action profiles
 IN Knudsen, Liselotte Bjerre; Huusfeldt, Per Olaf; Nielsen, Per Franklin;
 Kaarsholm, Niels C.; Olsen, Helle Birk; Bjorn, Soren Erik; Pedersen,
 Freddy Zimmerdahl; Madsen, Kjeld
 PA Den.
 SO U.S. Pat. Appl. Publ., 133 pp., Cont.-in-part of U.S. Ser. No. 265,141.
 CODEN: USXXCO
 DT Patent
 LA English
 IC A61K038-00
 NCL 514012000
 CC 34-3 (Amino Acids, Peptides, and Proteins)
 Section cross-reference(s): 1, 63

FAN.CNT 12

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2001011071	A1	20010802	US 1999-398111	19990916 <--
	US 6458924	B2	20021001		
	WO 9808871	A1	19980305	WO 1997-DK340	19970822 <--
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	JP 2001011095	A2	20010116	JP 2000-152778	19970822 <--
	ZA 9707791	A	19980302	ZA 1997-7791	19970829 <--
	ZA 9707828	A	19980302	ZA 1997-7828	19970901 <--
	US 6268343	B1	20010731	US 1999-258750	19990226 <--
	US 6384016	B1	20020507	US 1999-265141	19990308 <--
	US 2002025933	A1	20020228	US 2001-908534	20010718 <--
	US 2003199672	A1	20031023	US 2002-285079	20020819 <--
PRAI	DK 1996-931	A	19960830	<--	
	DK 1996-1259	A	19961108	<--	
	DK 1996-1470	A	19961220	<--	
	US 1997-36255P	P	19970124	<--	
	US 1997-36226P	P	19970125	<--	
	US 1998-84357P	P	19970822	<--	
	WO 1997-DK340	W	19970822	<--	
	US 1997-918810	B2	19970826	<--	
	DK 1998-263	A	19980227	<--	
	DK 1998-264	A	19980227	<--	
	DK 1998-268	A	19980227	<--	
	US 1998-38432	B2	19980311	<--	
	US 1998-78422P	P	19980318	<--	
	US 1998-82478P	P	19980421	<--	
	US 1998-82479P	P	19980421	<--	
	US 1998-82480P	P	19980421	<--	
	US 1998-82802P	P	19980423	<--	

US 1999-258750	A2	19990226	
US 1999-265141	A2	19990308	
US 1997-35904P	P	19970124	<--
US 1997-35905P	P	19970124	<--
JP 1998-511183	A3	19970822	<--
US 1997-922200	B2	19970902	<--
DK 1998-271	A	19980227	<--
DK 1998-272	A	19980227	<--
DK 1998-274	A	19980227	<--
EP 1998-610006	A	19980313	<--
DK 1998-507	A	19980408	<--
DK 1998-508	A	19980408	<--
DK 1998-509	A	19980408	<--
US 1998-85789P	P	19980518	<--
US 1999-258187	B1	19990225	
US 1999-398111	A1	19990916	

OS MARPAT 135:122756

AB The present invention relates to pharmaceutical compns. comprising lipophilic human **glucagon**-like peptide-1 (GLP-1) derivs. having a lipophilic substituent and a surfactant. Thus, coupling of GLP-1(7-37)-OH with Me(CH₂)₁₂CO-Glu(OSu)-OCMe₃ (Su = succinimidyl) (preparation given), followed by deesterification with CF₃CO₂H and chromatog. purification gave 8% bis-adduct Lys[Me(CH₂)₁₂CO-γ-Glu]26,34-GLP-1(7-37)-OH. Several prepared lipophilic GLP-1 analogs were tested for protracted plasma concentration in pigs and were found to be much more persistent than GLP-1(7-37).

In addition, the time of peak plasma concentration was found to vary within wide limits depending on the particular lipophilic GLP-1 derivative selected. The efficacy of several prepared derivs. was tested by stimulation of cAMP in a cell line expressing cloned human GLP-1 receptor.

ST lipophilic **glucagon** like peptide prepn antidiabetic; antiobesity agent lipophilic **glucagon** like peptide

IT Glycerophospholipids

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (cephalins, pharmaceutical composition; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT Carboxylic acids, preparation

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (dicarboxylic, long-chain, **glucagon**-like peptide conjugates; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT Castor oil

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ethoxylated, pharmaceutical composition; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT Fatty acids, preparation

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (**glucagon**-like peptide conjugates; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT Glycolipids

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (glyceroglycolipids, pharmaceutical composition; preparation of lipophilic

human

glucagon-like peptide-1 derivs. with protracted action profiles)

- IT Lysophosphatides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(lysophosphatidylthreonines, pharmaceutical composition; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)
- IT Detergents
(pharmaceutical composition; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)
- IT Glycerides, biological studies
Glycosphingolipids
Lecithins
Lysophosphatidylcholines
Lysophosphatidylserines
Lysophospholipids
Phosphatidylcholines, biological studies
Phosphatidylserines
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmaceutical composition; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)
- IT Sphingolipids
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(phosphosphingolipids, pharmaceutical composition; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)
- IT Antidiabetic agents
Antiobesity agents
(preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)
- IT Peptides, preparation
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)
- IT 240133-31-7P 240133-32-8P 240133-33-9P
240133-35-1P 240480-97-1P 240480-98-2P 240480-99-3P
240481-01-0P 240481-02-1P 240481-03-2P 240481-04-3P
240481-05-4P 240481-06-5P 240481-07-6P 240481-08-7P
240481-09-8P 240481-10-1P 240481-11-2P 240481-12-3P
240481-13-4P 240481-22-5P 240481-24-7P
240481-25-8P 240481-27-0P 240481-32-7P
240481-33-8P 240481-35-0P 240482-41-1P 240482-42-2P
240482-43-3P 240482-44-4P 240482-45-5P 240483-55-0P 240483-71-0P
240497-59-0P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(**glucagon**-like peptide conjugates; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)
- IT 56-12-2, γ -Aminobutyric acid, reactions 107-95-9, β -Alanine
13406-98-9, 1-Piperidinecarboxylic acid 14565-47-0 22102-66-5
25456-76-2 55889-33-3 176435-11-3 204521-81-3
240133-43-1 240133-44-2 240133-45-3 240133-46-4
240133-47-5 240133-48-6 240133-49-7 240133-50-0 240133-51-1
240481-37-2 240481-39-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(**glucagon**-like peptide conjugates; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)
- IT 14464-30-3P 111333-92-7P 240133-29-3P 240133-30-6P 240133-34-0P
240133-36-2P 240133-37-3P 240133-38-4P 240133-39-5P 240133-40-8P
240133-41-9P 240133-42-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(glucagon-like peptide conjugates; preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)

- IT 56-81-5, Glycerol, biological studies 57-09-0, Cetyltrimethylammonium bromide 69-65-8, Mannitol 81-25-4, Cholic acid 99-76-3, Methyl p-hydroxybenzoate 100-51-6, Benzenemethanol, biological studies 108-39-4, m-Cresol, biological studies 108-95-2, Phenol, biological studies 123-03-5, Cetylpyridinium chloride 128-49-4 145-42-6, Sodium taurocholate 151-21-3, Sodium dodecyl sulfate, biological studies 300-62-9, Amphetamine 302-95-4, Sodium deoxycholate 577-11-7 863-57-0, Sodium glycocholate 1984-06-1, Sodium caprylate 2644-64-6, Dipalmitoylphosphatidylcholine 3239-44-9, Dexfenfluramine 3476-42-4 7491-09-0 7647-14-5, Sodium chloride, biological studies 9002-72-6, Growth hormone 9002-92-0, brij-35 9002-93-1, triton x-100 9005-64-5, tween-20 9005-65-6, tween-80 9005-66-7, tween-40 9007-92-5, **Glucagon**, biological studies 11061-68-0, Human insulin 13699-45-1 19698-29-4, Dipalmitoyl phosphatidic acid 29557-51-5, Dodecylphosphocholine 42907-92-6, Sodium taurodi hydrofusidate 58930-05-5 59122-55-3, Dodecyl β -D-glucopyranoside 75621-03-3 75795-82-3 96829-58-2, Orlistat 106650-56-0, Sibutramine 169494-85-3, Leptin
- RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmaceutical composition; preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)
- IT 204521-68-6DP, lipophilic derivs.
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)
- IT 106612-94-6
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)
- IT 87805-34-3DP, Glucagon-like peptide I (human), lipophilic derivs. 89750-14-1DP, Glucagon-related peptide I, lipophilic derivs. 99658-04-5DP, lipophilic derivs. 104364-62-7DP, Glucagon-related peptide I (guinea pig clone gpGCG-2), lipophilic derivs. 106612-94-6DP, Glucagon-like peptide I(7-37) (human), lipophilic derivs. 107444-51-9DP, lipophilic derivs. 121181-17-7DP, Glucagon-related peptide 1 (Octodon degus), lipophilic derivs. 123475-27-4DP, lipophilic derivs. 123475-28-5DP, lipophilic derivs. 123512-62-9DP, lipophilic derivs. 157569-66-9DP, lipophilic derivs. 157629-57-7DP, lipophilic derivs. 204521-54-0P 204521-55-1P 204521-56-2P 204521-57-3P 204521-58-4P 204521-59-5P 204521-69-7DP, lipophilic derivs. 204521-70-0DP, lipophilic derivs. 204521-72-2DP, lipophilic derivs. 204521-81-3DP, lipophilic derivs. 204521-82-4DP, lipophilic derivs. 204521-83-5DP, lipophilic derivs. 204521-84-6DP, lipophilic derivs. 204521-85-7DP, lipophilic derivs. 204521-86-8DP, lipophilic derivs. 204521-87-9DP, lipophilic derivs. 204521-88-0DP, lipophilic derivs. 204521-89-1DP, lipophilic derivs. 204521-90-4DP, lipophilic derivs. 204521-91-5DP, lipophilic derivs. 204521-92-6DP, lipophilic derivs. 204655-84-5DP, lipophilic derivs. 204655-85-6DP, lipophilic derivs. 204655-86-7DP,

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lipophilic derivs. 204655-94-7P 204655-96-9P
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204656-00-8P 204656-01-9P 204656-02-0P
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derivs. 204656-13-3DP, lipophilic derivs. 204656-14-4DP
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204656-16-6P 204656-17-7P 204656-18-8P
204656-20-2P 204656-21-3P 204656-22-4DP,
lipophilic derivs. 204656-24-6DP, lipophilic derivs.
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204656-53-1DP, lipophilic derivs. 204656-54-2DP,
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204656-59-7DP, lipophilic derivs. 204656-60-0DP,
lipophilic derivs. 204656-61-1P 204656-62-2DP,
lipophilic derivs. 204656-63-3DP, lipophilic derivs.
204656-64-4DP, lipophilic derivs. 204656-65-5DP,
lipophilic derivs. 204656-66-6DP, lipophilic derivs.
204656-67-7DP, lipophilic derivs. 204656-68-8DP,
lipophilic derivs. 204656-69-9DP, lipophilic derivs.
204656-70-2DP, lipophilic derivs. 204656-71-3DP,
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204656-94-0DP, lipophilic derivs. 204656-95-1DP,
lipophilic derivs. 204656-96-2DP, lipophilic derivs.
204656-97-3DP, lipophilic derivs. 204996-97-4P, NNC
901167

RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)

IT 434-13-9, Lithocholic acid 14464-31-4 14464-32-5 45120-30-7,
L-Glutamic acid α -tert-butyl ester 69888-86-4 128746-57-6
146004-82-2 146004-83-3 146004-84-4 146004-85-5 204521-68-6
204521-69-7 204521-70-0 204521-71-1
204521-72-2 204521-73-3 204521-75-5 204655-83-4
204655-95-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)

IT 104211-94-1P 204521-61-9P 204521-63-1P 204521-65-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)

L58 ANSWER 6 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:441646 HCAPLUS

DN 133:64006

ED Entered STN: 30 Jun 2000

TI Shelf-stable formulation of glucagon-like peptide-1

IN Brader, Mark L.; Pekar, Allen H.

PA Eli Lilly and Company, USA

SO PCT Int. Appl., 27 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K038-26

ICS A61K038-28; A61K047-10; A61K047-26; A61P003-10; A61K038-28;
A61K038-26

CC 63-6 (Pharmaceuticals)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000037098	A1	20000629	WO 1999-US30395	19991221 <--
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2358107	AA	20000629	CA 1999-2358107	19991221 <--
EP 1140148	A1	20011010	EP 1999-967463	19991221 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002532557	T2	20021002	JP 2000-589208	19991221 <--
PRAI US 1998-113499P	P	19981222 <--		
WO 1999-US30395	W	19991221		

AB Glucagon-like peptide-1 (GLP-1) has been shown to be useful in the treatment of diabetes. The invention encompasses a shelf-stable formulation that comprises a therapeutically effective amount of GLP-1, a pharmaceutically acceptable preservative, and a tonicity modifier, and that has a pH between about 8.2 to about 8.8. Val(8) GLP-1 (66.2 mg) was dissolved in water at 1.0 mg/mL and adjusted to pH 8.51. A 21.5 mL aliquot of peptide solution in water was mixed with 21.5 mL of 0.63% m-cresol-3.2% glycerol-0.02M pH 8.5 Tris buffer and the final pH was set to 8.50. Aliquots of the solution, containing 0.5 mg/mL peptide in 0.315%

Applicant

m-cresol-1.6% glycerol- 0.01M Tris at pH 8.50, were pipetted into parenteral vials. GLP-1 in Tris buffer had the highest purity, and hence the highest stability values.

ST shelf life stability formulation **glucagon** peptide;
glucagon like peptide shelf life stability
IT Drug delivery systems
(parenterals; shelf-stable formulation of **glucagon-like**
peptide-1)
IT Buffers
Drug delivery systems
Surfactants
(shelf-stable formulation of **glucagon-like** peptide-1)
IT 56-87-1, Lysine, biological studies 77-86-1, Tris
RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(shelf-stable formulation of **glucagon-like** peptide-1)
IT 89750-14-1, **Glucagon-like** peptide I 123475-28-5
127650-06-0 194551-05-8
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological
study); USES (Uses)
(shelf-stable formulation of **glucagon-like** peptide-1)
IT 9002-92-0, Brij-35
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(shelf-stable formulation of **glucagon-like** peptide-1)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

- (1) Gen Hospital Corp; WO 8706941 A 1987 HCAPLUS
- (2) Habener, J; US 5118666 A 1992 HCAPLUS
- (3) Lilly Co Eli; EP 0733644 A 1996 HCAPLUS
- (4) London Health Ass; WO 9531214 A 1995 HCAPLUS
- (5) Novonordisk As; WO 9620005 A 1996 HCAPLUS

L58 ANSWER 7 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:161155 HCAPLUS

DN 132:212699

ED Entered STN: 10 Mar 2000

TI Method for administering insulintropic peptides

IN Hughes, Benjamin Lee; Wolff, Ronald Keith

PA Eli Lilly and Company, USA

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K038-16

CC 63-6 (Pharmaceuticals)

Section cross-reference(s): 1, 2

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000012116	A1	20000309	WO 1999-US19348	19990824 <--
W:			AE, AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CR, CU, CZ, DM, EE, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM	
RW:			GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG	
CA 2341454	AA	20000309	CA 1999-2341454	19990824 <--
AU 9955841	A1	20000321	AU 1999-55841	19990824 <--
AU 764371	B2	20030814		
BR 9913284	A	20010515	BR 1999-13284	19990824 <--
JP 2002523466	T2	20020730	JP 2000-567230	19990824 <--
EP 997151	A2	20000503	EP 1999-306733	19990825 <--

EP 997151 A3 20000920
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO
 ZA 2001001541 A 20020523 ZA 2001-1541 20010223 <--
 NO 2001000982 A 20010427 NO 2001-982 20010227 <--
 HR 2001000141 A1 20020228 HR 2001-141 20010227 <--
 PRAI US 1998-98273P P 19980828 <--
 US 1998-100012P P 19980911 <--
 WO 1999-US19348 W 19990824
 AB The claimed invention relates to a method of administering
glucagon-like peptide-1 mols. by inhalation, a method for treating
 diabetes by administering **glucagon**-like peptide-1 mols. by
 inhalation, and a method for treating hyperglycemia by administering
glucagon-like peptide-1 mols. by inhalation. There was good
 bioavailability of Val8-GLP-1 delivered to the lungs of dogs by inhalation
 relative to s.c. administration.
 ST **glucagon** like peptide inhalation; antidiabetic insulintropic
 peptide inhalation
 IT Drug delivery systems
 (inhalants; inhalation administration of insulintropic peptides)
 IT Antidiabetic agents
 (inhalation administration of insulintropic peptides)
 IT Drug delivery systems
 (sprays; inhalation administration of insulintropic peptides)
 IT 194551-05-8, Val8-GLP-1
 RL: BAC (Biological activity or effector, except adverse); BPR (Biological
 process); BSU (Biological study, unclassified); THU (Therapeutic
 use); BIOL (Biological study); PROC (Process); USES (Uses)
 (inhalation administration of insulintropic peptides)
 IT 89750-14-1, **Glucagon**-like peptide I 89750-14-1D
 , **Glucagon**-like peptide I, derivs.
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (inhalation administration of insulintropic peptides)
 IT 260551-81-3 260551-82-4 260551-84-6
 RL: PRP (Properties)
 (unclaimed protein sequence; method for administering insulintropic
 peptides)
 RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Buckley; US 5545618 A 1996 HCAPLUS
 (2) Chen; US 5512549 A 1996 HCAPLUS
 L58 ANSWER 8 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2000:133809 HCAPLUS
 DN 132:175839
 ED Entered STN: 25 Feb 2000
 TI Differentiation of non-insulin producing cells into insulin producing
 cells by GLP-1 or Exendin-4 and uses thereof
 IN Egan, Josephine; Perfetti, Riccardo; Passaniti, Antonino; Greig, Nigel;
 Holloway, Harold
 PA United States of America, Department of Health and Human Services, USA
 SO PCT Int. Appl., 119 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C12N005-06
 ICS A61K038-22; A61K038-26; C07K014-605; C07K014-575
 CC 1-10 (Pharmacology)
 Section cross-reference(s): 63
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000009666	A2	20000224	WO 1999-US18099	19990810 <--

WO 2000009666 A3 20001123

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2339326 AA 20000224 CA 1999-2339326 19990810 <--

AU 9955524 A1 20000306 AU 1999-55524 19990810 <--

EP 1105460 A2 20010613 EP 1999-942066 19990810 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

PRAI US 1998-95917P P 19980810 <--

WO 1999-US18099 W 19990810

AB The present invention relates to a population of insulin producing cells made by a process comprising contacting non-insulin producing cells with a growth factor selected from the group consisting of GLP-1 or Exendin-4, growth factors having amino acid sequences substantially homologous to GLP-1 or Exendin-4, and fragments thereof. The present invention also relates to methods of differentiating non-insulin producing cells into insulin producing cells and of enriching a population of cells for insulin-producing cells. The present invention also relates to methods of treating diabetes. Exendin-4 was more potent an insulinotropic agent than GLP-1 on several levels when given i.v.

ST insulin cell differentiation growth factor; **glucagon** like peptide 1 insulin cell differentiation; Exendin 4 insulin cell differentiation; diabetes treatment cell differentiation insulin

IT Animal cell line
(AR42J; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)

IT Pancreas
(acinar cell; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)

IT Pancreas
(cell of; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)

IT Cell
Cell differentiation
(differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)

IT **Glucagon**-like peptide-1 receptors
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)

IT mRNA
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(for insulin; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)

IT Diabetes mellitus
(insulin-dependent, treatment of; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)

IT Animal cell
(mammalian; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)

IT Cell

- (stem; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)
- IT Antigens
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(surface, alteration of, on cell surface; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)
- IT Diabetes mellitus
(treatment of; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)
- IT 9004-10-8P, Insulin, biological studies
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)
- IT 9007-92-5, Glucagon, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)
- IT 89750-14-1, Glucagon-like peptide I 89750-14-1D
, Glucagon-like peptide I, homologs or fragments 141732-76-5, Exendin-4 141732-76-5D, Exendin-4, homologs or fragments
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)
- IT 7440-70-2, Calcium, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(intracellular, GLP-1 effect on; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)
- IT 9000-92-4P, Amylase
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(pancreatic cells producing; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)
- IT 259127-56-5, 8: PN: WO0009666 SEQID: 19 unclaimed DNA 259127-57-6, 9: PN: WO0009666 SEQID: 20 unclaimed DNA 259127-58-7 259127-59-8 259127-60-1 259127-61-2 259127-62-3 259127-65-6, 19: PN: WO0009666 PAGE: 58 unclaimed DNA 259127-66-7, 20: PN: WO0009666 PAGE: 58 unclaimed DNA
RL: PRP (Properties)
(unclaimed nucleotide sequence; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)
- IT 203743-40-2 238411-01-3 238411-05-7 238411-07-9 238411-10-4 238748-48-6 259127-63-4, 15: PN: WO0009666 PAGE: 46 unclaimed DNA 259127-64-5, 16: PN: WO0009666 PAGE: 46 unclaimed DNA 259141-41-8
RL: PRP (Properties)
(unclaimed protein sequence; differentiation of non-insulin producing cells into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)
- IT 106612-94-6 123475-27-4 123475-28-5 123475-29-6 127650-06-0 165338-05-6, 1-31-Exendin 4 (Heloderma suspectum) 210712-28-0, 1-30-Exendin 4 (Heloderma suspectum) 216172-92-8, 7-30-Glucagon-like peptide 1 (Octodon degus) 238091-78-6 259088-25-0 259088-26-1
RL: PRP (Properties)
(unclaimed sequence; differentiation of non-insulin producing cells

into insulin producing cells by GLP-1 or Exendin-4 and uses thereof)

L58 ANSWER 9 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2000:116918 HCAPLUS
 DN 132:147179
 ED Entered STN: 18 Feb 2000
 TI Use of GLP-1 and analogues for preventing type II diabetes
 IN Nielsen, Jens Hoiriis; Friedrichsen, Birgitte Nissen; Rugh, Susanne;
 Tromholt, Niels; Bjorn, Soren; Knudsen, Liselotte Bjerre; Sturis, Jeppe
 PA Novo Nordisk A/s, Den.
 SO PCT Int. Appl., 68 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM A61K038-26
 ICS A61P003-10
 CC 2-6 (Mammalian Hormones)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000007617	A1	20000217	WO 1999-DK424	19990729 <--
	W:			AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM	
	RW:			GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG	
	AU 9950272	A1	20000228	AU 1999-50272	19990729 <--
	EP 1100530	A1	20010523	EP 1999-934520	19990729 <--
	EP 1100530	B1	20031008		
	R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO	
	EP 1306091	A2	20030502	EP 2002-26139	19990729 <--
	EP 1306091	A3	20030521		
	R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL	
	AT 251465	E	20031015	AT 1999-934520	19990729 <--
	US 2003224983	A1	20031204	US 2002-191351	20020703 <--
PRAI	DK 1998-998	A	19980731		<--
	DK 1998-1025	A	19980812		<--
	US 1998-96117P	P	19980810		<--
	US 1998-97604P	P	19980824		<--
	EP 1999-934520	A3	19990729		
	WO 1999-DK424	W	19990729		
	US 1999-364410	B1	19990730		
	US 2000-678683	A1	20001003		
AB	The present invention relates to a method for increasing the number and/or the size of beta cells, for stimulating beta cell proliferation and for preventing diabetes. The invention is based on the recognition that GLP-1 acts as a beta cell growth factor. The invention also relates to a method for preventing or curing Type I or Type II diabetes, a method for obtaining a less severe disease stage in a subject suffering from Type II diabetes as well as methods of delaying the progression of impaired glucose tolerance (IGT) or non-insulin requiring Type II diabetes to insulin requiring Type II diabetes. The invention also relates to a cure for diabetes.				
ST	GLP1 analog type II diabetes prevention				
IT	Diabetes mellitus (insulin-dependent; use of GLP-1 and analogs for preventing type II diabetes)				

IT Diabetes mellitus
(non-insulin-dependent; use of GLP-1 and analogs for preventing type II diabetes)

IT Antidiabetic agents
(use of GLP-1 and analogs for preventing type II diabetes)

IT 89750-14-1, Glucagon-like peptide I 89750-14-1D
, Glucagon-like peptide I, analogs and agonists
106612-94-6, Human glucagon-like peptide 1 (7-37)
107444-51-9, Human glucagon-like peptide-1 (7-36)amide
194551-05-8 204656-20-2 213754-29-1 213754-31-5
213754-33-7 213754-35-9 224638-84-0 227472-22-2
258289-68-8
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(use of GLP-1 and analogs for preventing type II diabetes)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Byrne, M; Diabetic Medicine 1996, V13, P854 MEDLINE
- (2) Holst, J; Diabetes 1998, V47, P1663 HCAPLUS
- (3) Novo Nordisk AS; WO 9808871 A1 1998 HCAPLUS

L58 ANSWER 10 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:404857 HCAPLUS

DN 131:49498

ED Entered STN: 01 Jul 1999

TI Glucagon-like peptide-1 crystals

IN Hoffmann, James Arthur; Hermeling, Ronald Norbert; Narasimhan, Chakravarthy

PA Eli Lilly and Company, USA

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K038-26

ICS C07K014-605

CC 63-6 (Pharmaceuticals)

Section cross-reference(s): 2

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9930731	A1	19990624	WO 1998-US26480	19981214 <--
W:	AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
CA 2315243	AA	19990624	CA 1998-2315243	19981214 <--
EP 926159	A2	19990630	EP 1998-310245	19981214 <--
EP 926159	A3	20031126		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
AU 9918218	A1	19990705	AU 1999-18218	19981214 <--
ZA 9811466	A	20000614	ZA 1998-11466	19981214 <--
BR 9813658	A	20001010	BR 1998-13658	19981214 <--
JP 2002508332	T2	20020319	JP 2000-538710	19981214 <--
NZ 505182	A	20020531	NZ 1998-505182	19981214 <--
NO 2000003081	A	20000808	NO 2000-3081	20000615 <--
HR 2000000409	A1	20001031	HR 2000-409	20000616 <--
PRAI US 1997-69728P	P	19971216	<--	
WO 1998-US26480	W	19981214	<--	

- AB The invention provides individual tetragonal flat rod shaped or plate-like crystals of **glucagon**-like peptide-1 related mols., processes for their preparation, compns. and methods of use. The crystal prepsns. exhibit extended time action in vivo and are useful for treating diabetes, obesity, and related conditions.
- ST **glucagon** like peptide 1 crystal antidiabetic antiobesity sequence
- IT Antidiabetic agents
Antiobesity agents
Buffers
Crystallization
Protein sequences
(**glucagon**-like peptide-1 crystals for extended action in treating diabetes and obesity)
- IT Alcohols, uses
Disaccharides
Monosaccharides
RL: NUU (Other use, unclassified); USES (Uses)
(**glucagon**-like peptide-1 crystals for extended action in treating diabetes and obesity)
- IT Crystal morphology
(tetragonal; **glucagon**-like peptide-1 crystals for extended action in treating diabetes and obesity)
- IT 54249-88-6, Dipeptidyl peptidase iv
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(-protected GLP-1; **glucagon**-like peptide-1 crystals for extended action in treating diabetes and obesity)
- IT 56-40-6, Glycine, uses 56-84-8, Aspartic acid, uses 127-09-3, Sodium acetate 631-61-8, Ammonium acetate 6976-37-0, Bis-Tris
RL: NUU (Other use, unclassified); USES (Uses)
(buffer; **glucagon**-like peptide-1 crystals for extended action in treating diabetes and obesity)
- IT 106612-94-6P 194551-05-8P 213754-29-1P 213754-33-7P 227472-22-2P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(**glucagon**-like peptide-1 crystals for extended action in treating diabetes and obesity)
- IT 89750-14-1, **Glucagon**-like peptide I
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(**glucagon**-like peptide-1 crystals for extended action in treating diabetes and obesity)
- IT 50-69-1, Ribose 50-99-7, Glucose, uses 56-81-5, Glycerol, uses 57-48-7, Fructose, uses 57-50-1, Sucrose, uses 59-23-4, Galactose, uses 63-42-3, Lactose 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 69-65-8, Mannitol 69-79-4, Maltose 71-23-8, Propanol, uses 77-86-1, Tris buffer 99-20-7, Trehalose 1758-51-6, Erythrose 7440-66-6, Zinc, uses 7646-85-7, Zinc chloride, uses 7783-20-2, Ammonium sulfate, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**glucagon**-like peptide-1 crystals for extended action in treating diabetes and obesity)
- RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
- RE
- (1) Eli Lilly and Company; EP 0658568 A1 1995 HCAPLUS
- (2) Eli Lilly and Company; EP 0869135 A1 1998 HCAPLUS
- (3) Pfizer Inc; EP 0619322 A2 1994 HCAPLUS

(4) Pridal; 1996, V136(1-2), P53

L58 ANSWER 11 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:390390 HCAPLUS

DN 131:49468

ED Entered STN: 24 Jun 1999

TI Oral GLP-1 formulations for antidiabetic and other therapeutic applications

IN Hoffmann, James Arthur

PA Eli Lilly and Company, USA

SO PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K038-26

CC 63-6 (Pharmaceuticals)

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9929336	A1	19990617	WO 1998-US25515	19981202	<--
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2312190	AA	19990617	CA 1998-2312190	19981202	<--
	AU 9916173	A1	19990628	AU 1999-16173	19981202	<--
	EP 1049486	A1	20001108	EP 1998-960617	19981202	<--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
	JP 2001525371	T2	20011211	JP 2000-524005	19981202	<--
	US 6358924	B1	20020319	US 2000-585181	20000601	<--
	US 2002123466	A1	20020905	US 2002-72540	20020208	<--
PRAI	US 1997-67600P	P	19971205			<--
	WO 1998-US25515	W	19981202			<--
	US 2000-573809	A1	20000518			
AB	Methods and formulations are presented that provide for (a) the oral absorption of GLP-1 peptides that bind surfactants; and (b) long-term storage of formulations containing these peptides. For example, a GLP-1/DSS complex is administered orally instead of parenterally, which is much more convenient for, and facilitates compliance with diabetic patients and persons with other GLP-1 treated conditions.					
ST	GLP1 oral formulation antidiabetic sequence; glucose lowering peptide 1 oral formulation antidiabetic					
IT	Cytoprotective agents (cardioprotective; oral GLP-1 formulations for antidiabetic and other therapeutic applications)					
IT	Metabolism, animal (disorder, catabolic; oral GLP-1 formulations for antidiabetic and other therapeutic applications)					
IT	Gene, animal RL: BSU (Biological study, unclassified); BIOL (Biological study) (glp-1, peptide product; oral GLP-1 formulations for antidiabetic and other therapeutic applications)					
IT	Peptides, biological studies RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses) (glucose-lowering peptide 1; oral GLP-1 formulations for antidiabetic and other therapeutic applications)					

IT Heart, disease
(infarction; oral GLP-1 formulations for antidiabetic and other therapeutic applications)

IT Antidiabetic agents
Antiobesity agents
Preservatives
Protein sequences
Surfactants
(oral GLP-1 formulations for antidiabetic and other therapeutic applications)

IT Drug delivery systems
(oral; oral GLP-1 formulations for antidiabetic and other therapeutic applications)

IT Brain, disease
(stroke; oral GLP-1 formulations for antidiabetic and other therapeutic applications)

IT 106612-94-6 107444-51-9
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(amino acid sequence; oral GLP-1 formulations for antidiabetic and other therapeutic applications)

IT 56-81-5, 1,2,3-Propanetriol, biological studies 99-76-3, Methylparaben 100-51-6, Benzyl alcohol, biological studies 123-03-5, Cetylpyridinium chloride 128-49-4, Docusate calcium 145-42-6, Sodium taurocholate 151-21-3, Sodium dodecyl sulfate, biological studies 302-95-4, Sodium deoxycholate 361-09-1, Sodium cholate 577-11-7 863-57-0, Sodium glycocholate 1984-06-1, Sodium caprylate 7491-09-0, Docusate potassium 7647-14-5, Sodium chloride, biological studies 9002-92-0, Brij 35 9002-93-1, Triton X-100 9005-65-6, Tween 80 9005-66-7, Tween 40 29777-99-9D, N-alkyl derivs. 59122-55-3, Dodecyl β -D-glucopyranoside 75621-03-3
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(oral GLP-1 formulations for antidiabetic and other therapeutic applications)

IT 108-39-4, biological studies 108-95-2, Phenol, biological studies
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(preservative; oral GLP-1 formulations for antidiabetic and other therapeutic applications)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Buckley; US 5545618 A 1996 HCAPLUS
(2) Friend; US 5811388 A 1998 HCAPLUS
(3) Habener; US 5120712 A 1992 HCAPLUS
(4) Heiber; US 5766620 A 1998 HCAPLUS
(5) Novo Nordisk AS; WO 9318785 A1 1993 HCAPLUS
(6) Novo Nordisk AS; WO 9731943 A1 1997 HCAPLUS
(7) Sawai; US 5376637 A 1994 HCAPLUS

L58 ANSWER 12 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:216939 HCAPLUS
DN 130:247048
ED Entered STN: 07 Apr 1999
TI Composition for treating diabetes mellitus and obesity
IN Forssmann, Wolf Georg; Richter, Rudolf; Adermann, Knut; Meyer, Markus
PA Germany
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2

DT Patent
 LA German
 IC ICM C07K014-605
 ICS A61K038-22
 CC 1-10 (Pharmacology)
 Section cross-reference(s): 2

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9914239	A1	19990325	WO 1998-EP5804	19980911 <--
	W: JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19810515	A1	19991007	DE 1998-19810515	19980311 <--
	EP 1012188	A1	20000628	EP 1998-950026	19980911 <--
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL				
	JP 2001516765	T2	20011002	JP 2000-511787	19980911 <--
PRAI	DE 1997-19740081	A	19970912	<--	
	DE 1997-19757739	A	19971223	<--	
	DE 1998-19810515	A	19980311	<--	
	WO 1998-EP5804	W	19980911	<--	
AB	A combination of ≥ 2 of (a) ≥ 1 hormone which stimulates cAMP production, (b) ≥ 1 substance which inhibits the breakdown of a cyclic nucleotide, and (c) ≥ 1 hormone which stimulates cGMP production is superior to any of these substances alone in stimulating insulin secretion and decreasing the blood glucose level. Component (a) is an analog or deriv. of glucagon -like peptide 1, (b) is a phosphodiesterase inhibitor, and (c) is a guanylate cyclase C-activating peptide, esp. a guanylin or uroguanylin fragment. These may be combined with addnl. peptide hormones which affect islet cell secretion (no data).				
ST	antidiabetic peptide cAMP cGMP formation; obesity treatment glucagon like peptide; phosphodiesterase inhibitor diabetes obesity treatment; guanylin diabetes obesity treatment; uroguanylin diabetes obesity treatment				
IT	Pancreas, disease (chronic pancreatitis, secondary hyperglycemia in, treatment of; peptide composition for treating diabetes mellitus and obesity)				
IT	Nucleotides, biological studies RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process) (cyclic; peptide composition for treating diabetes mellitus and obesity)				
IT	Lipoproteins (dyslipoproteinemia, treatment of; peptide composition for treating diabetes mellitus and obesity)				
IT	Lipoproteins (hyperlipoproteinemia, treatment of; peptide composition for treating diabetes mellitus and obesity)				
IT	Muscle, disease (hypotonia, treatment of; peptide composition for treating diabetes mellitus and obesity)				
IT	Antidiabetic agents Antiobesity agents (peptide composition for treating diabetes mellitus and obesity)				
IT	Acromegaly Cushing's syndrome Hemochromatosis Hyperthyroidism Pheochromocytoma (secondary hyperglycemia in, treatment of; peptide composition for treating diabetes mellitus and obesity)				
IT	Drug interactions (synergistic; peptide composition for treating diabetes mellitus and				

- obesity)
- IT 9054-75-5, Guanylate cyclase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(C; -activating peptides, for treating diabetes mellitus and obesity)
- IT 9025-82-5, Phosphodiesterase 9036-21-9, Phosphodiesterase III
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitors; peptide composition for treating diabetes mellitus and obesity)
- IT 58-55-9, Theophylline, biological studies 58-74-2, Papaverine
1393-25-5D, Secretin, analogs and derivs. 9007-92-5D, **Glucagon**
, analogs and derivs., biological studies 27277-00-5, ICI 63197
28822-58-4, IBMX 29925-17-5, Ro 20-1724 37221-79-7D, Vasoactive
intestinal peptide, analogs and derivs. 41078-02-8, Enprofylline
51022-77-6, Etazolate 57076-71-8, Denbufylline 59392-49-3D, Gastric
inhibitory peptide, analogs and derivs. 61413-54-5, Rolipram
68550-75-4, Cilostamide 70018-51-8, Quazinson 70386-06-0, Y-590
71567-77-6D, Glicentin, analogs and derivs. 73384-60-8, Sulmazole
73963-72-1, Cilostazol 74150-27-9, Pimobendan 77671-31-9, Enoximone
78415-72-2, Milrinone 83652-28-2D, Calcitonin gene-related peptide,
analogs and derivs. 84243-58-3, Imazodan 84490-12-0, Piroximone
87164-90-7, ICI 153110 89541-55-9, SKF 94120 **89750-14-1**,
Glucagon-like peptide I 89750-15-2D, **Glucagon-like**
peptide 2, analogs and derivs. 90697-57-7, Motapizone 93851-00-4, ICI
118233 94192-59-3, Lixazinone 98326-33-1, MCI-154 100510-33-6,
Adibendan 100643-96-7, Indolidan 101041-95-6, Org 30029 101975-10-4,
Zardaverine 102669-89-6, Saterinone 106602-62-4D, Amylin, analogs and
derivs. **106612-94-6** 107444-51-9, 7-36-**Glucagon-like**
peptide 1 amide 108381-22-2, UD-CG 212 112018-01-6, Bemoradan
115344-47-3, Siguazodan **119637-73-9** 120223-30-5, EMD 54622
123475-27-4 **123475-28-5** **127650-06-0** 137061-48-4D,
Pituitary adenylate cyclase-activating peptide, analogs and derivs.
138324-89-7 138324-90-0 **138324-91-1** 138324-92-2
138324-93-3 **138324-94-4** **138324-95-5**
138324-96-6 **138324-97-7** **138324-98-8**
138324-99-9 138325-00-5 **138347-75-8** **138347-76-9**
139308-65-9, Tolafentrine 144035-83-6, RP 73401 144940-98-7D,
Guanylin, peptides of 145319-90-0D, Guanylin (human reduced), peptides
of 154721-84-3 154835-90-2D, Adrenomedullin, analogs and derivs.
158078-88-7 164252-35-1D, Uroguanylin, peptides of 187224-24-4D,
peptides of 221460-16-8 221460-17-9 221460-18-0 221460-19-1
221460-20-4 221460-21-5 221460-22-6 221460-23-7 221460-24-8
221460-25-9 221460-26-0 221460-27-1 221460-28-2 221460-29-3
221460-30-6 221460-31-7 221460-32-8 221460-33-9 221460-34-0
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221460-39-5 221460-40-8 221460-41-9 221460-42-0 **221460-43-1**
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221460-49-7 **221460-50-0** **221460-51-1** 221460-52-2
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221460-67-9 221460-68-0 221460-69-1 221460-70-4 221460-71-5
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221460-82-8 221460-83-9 221460-86-2 221460-88-4 221460-90-8
221460-92-0 221460-94-2 221460-96-4 221460-98-6 221461-00-3
221461-02-5 221461-04-7 221461-07-0 221461-09-2 221461-11-6
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); **THU (Therapeutic use)**; BIOL (Biological
study); USES (Uses)
(peptide composition for treating diabetes mellitus and obesity)
- IT 60-92-4, CAMP 7665-99-8, CGMP
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM
(Metabolic formation); BIOL (Biological study); FORM (Formation,
nonpreparative); PROC (Process)
(peptide composition for treating diabetes mellitus and obesity)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

- (1) Buckley, D; WO 9111457 A 1991 HCAPLUS
- (2) Byk Gulden Lomberg Chem Fab; WO 9837894 A 1998 HCAPLUS
- (3) Celltech Therapeutics Ltd; WO 9723461 A 1997 HCAPLUS
- (4) Dundore; DRUG DEVELOPMENT RESEARCH 1991, V23(2), P171 HCAPLUS
- (5) Fisch; EUROPEAN JOURNAL OF PHARMACOLOGY MOLECULAR PHARMACOLOGY SECTION 1995, V289(3) HCAPLUS
- (6) London Health Ass; WO 9531214 A 1995 HCAPLUS
- (7) Monsanto Co; US 5140102 A 1992 HCAPLUS
- (8) Novonordisk As; WO 9318786 A 1993 HCAPLUS
- (9) Novonordisk As; WO 9731943 A 1997 HCAPLUS
- (10) Schmidtler; AMERICAN JOURNAL OF PHYSIOLOGY 1991, V260(6) HCAPLUS
- (11) Takahiro, H; WO 9724334 A 1997 HCAPLUS

L58 ANSWER 13 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:338142 HCAPLUS

DN 129:23726

ED Entered STN: 05 Jun 1998

TI Use of GLP-1 peptides for suppression of appetite or induction of satiety

IN Knudsen, Liselotte Bjerre; Thim, Lars; Judge, Martin Edward; Holst, Jens Juul; Astrup, Arne Vernon; Wulff, Brigitte Schjellerup

PA Novo Nordisk A/S, Den.; Knudsen, Liselotte Bjerre; Thim, Lars; Judge, Martin Edward; Holst, Jens Juul; Astrup, Arne Vernon; Wulff, Brigitte Schjellerup

SO PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K038-26

CC 2-6 (Mammalian Hormones)

Section cross-reference(s): 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9820895	A1	19980522	WO 1997-DK509	19971107 <--
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	AU 9748637	A1	19980603	AU 1997-48637	19971107 <--
	EP 941114	A1	19990915	EP 1997-911155	19971107 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI, LT, LV, FI, RO			
	JP 2001504105	T2	20010327	JP 1998-522061	19971107 <--
	ZA 9710182	A	19980512	ZA 1997-10182	19971112 <--
	US 2003232754	A1	20031218	US 2003-382438	20030306 <--
PRAI	DK 1996-1270	A	19961112	<--	
	US 1997-37661P	P	19970124	<--	
	US 1997-965135	B1	19971106	<--	
	WO 1997-DK509	W	19971107	<--	
	US 2000-723551	B1	20001128		
AB	GLP-1(1-45) or a fragment or an analog thereof can be used in the preparation of a therapeutic agent for peripheral administration in the suppression of appetite or induction of satiety. Pharmaceutical formulations containing the GLP-1 peptides are also claimed.				
ST	GLP1 peptides appetite suppression satiety				
IT	Neoplasm				
	(isolation and purification of GLP1 peptides from anorectic tumors; use of				

GLP-1 peptides for suppression of appetite or induction of satiety)

IT Appetite
(satiety; use of GLP-1 peptides for suppression of appetite or induction of satiety)

IT Antiobesity agents
Appetite depressants
(use of GLP-1 peptides for suppression of appetite or induction of satiety)

IT Drug delivery systems
(use of formulations containing GLP-1 peptides for suppression of appetite or induction of satiety)

IT 87805-34-3P, **Glucagon**-like peptide I (human) 99658-04-5P
104364-62-7P, **Glucagon**-like peptide I (guinea pig clone
gpGCG-2) 106612-94-6P 107444-51-9P 119637-73-9P
120500-32-5P 121181-17-7P, **Glucagon**-like peptide 1 (Octodon
degus) 123475-27-4P 123475-28-5P 123512-62-9P
127650-06-0P 138324-89-7P 138324-90-0P 157507-31-8P
157569-66-9P 157629-57-7P 157629-58-8P
163912-67-2P 204656-63-3P 204656-67-7P 207748-60-5P
207748-61-6P 207748-62-7P 207748-63-8P
207748-64-9P 207748-68-3P 207868-84-6P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); **THU** (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(use of GLP-1 peptides for suppression of appetite or induction of satiety)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Miguel, N; Journal of Neurochemistry 1996, V67(5), P1982
- (2) Novo Nordisk AS; WO 9731943 A1 1997 HCAPLUS
- (3) Turton, M; Nature 1996, V379, P69 HCAPLUS

L58 ANSWER 14 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:163616 HCAPLUS

DN 128:244341

ED Entered STN: 19 Mar 1998

TI Preparation of lipophilic human **glucagon**-like peptide-1 derivatives with protracted action profiles

IN Knudsen, Liselotte Bjerre; Sorensen, Per Olaf; Nielsen, Per Franklin
PA Novo Nordisk A/S, Den.; Knudsen, Liselotte Bjerre; Sorensen, Per Olaf; Nielsen, Per Franklin

SO PCT Int. Appl., 76 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07K014-605

ICS A61K038-26

CC 34-3 (Amino Acids, Peptides, and Proteins)

Section cross-reference(s): 1

FAN.CNT 12

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9808871	A1	19980305	WO 1997-DK340	19970822 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9738478	A1	19980319	AU 1997-38478	19970822 <--

AU 732957	B2	20010503	
EP 944648	A1	19990929	EP 1997-935509 19970822 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI, LT, LV, FI, RO			
CN 1232470	A	19991020	CN 1997-198413 19970822 <--
BR 9711437	A	20000118	BR 1997-11437 19970822 <--
JP 2000500505	T2	20000118	JP 1998-511183 19970822 <--
JP 3149958	B2	20010326	
JP 2001011095	A2	20010116	JP 2000-152778 19970822 <--
RU 2214419	C2	20031020	RU 1999-106518 19970822 <--
ZA 9707791	A	19980302	ZA 1997-7791 19970829 <--
ZA 9707828	A	19980302	ZA 1997-7828 19970901 <--
NO 9900950	A	19990428	NO 1999-950 19990226 <--
US 6268343	B1	20010731	US 1999-258750 19990226 <--
KR 2000035964	A	20000626	KR 1999-701750 19990302 <--
US 2001011071	A1	20010802	US 1999-398111 19990916 <--
US 6458924	B2	20021001	
US 2002025933	A1	20020228	US 2001-908534 20010718 <--
US 2003199672	A1	20031023	US 2002-285079 20020819 <--
PRAI DK 1996-931	A	19960830	<--
DK 1996-1259	A	19961108	<--
DK 1996-1470	A	19961220	<--
US 1997-35904P	P	19970124	<--
US 1997-35905P	P	19970124	<--
US 1997-36255P	P	19970124	<--
US 1997-36226P	P	19970125	<--
JP 1998-511183	A3	19970822	<--
WO 1997-DK340	W	19970822	<--
US 1997-918810	B2	19970826	<--
US 1997-922200	B2	19970902	<--
DK 1998-263	A	19980227	<--
DK 1998-264	A	19980227	<--
DK 1998-268	A	19980227	<--
DK 1998-271	A	19980227	<--
DK 1998-272	A	19980227	<--
DK 1998-274	A	19980227	<--
US 1998-38432	B2	19980311	<--
EP 1998-610006	A	19980313	<--
US 1998-78422P	P	19980318	<--
DK 1998-507	A	19980408	<--
DK 1998-508	A	19980408	<--
DK 1998-509	A	19980408	<--
US 1998-82478P	P	19980421	<--
US 1998-82479P	P	19980421	<--
US 1998-82480P	P	19980421	<--
US 1998-84357P	P	19980421	<--
US 1998-82802P	P	19980423	<--
US 1998-85789P	P	19980518	<--
US 1999-258187	B1	19990225	
US 1999-258750	A2	19990226	
US 1999-265141	A2	19990308	
US 1999-398111	A1	19990916	
AB	Lipophilic human glucagon-like peptide-1 (GLP-1) derivs. and analogs thereof having a lipophilic substituent have interesting pharmacol. properties, in particular they have a more protracted profile of action than GLP-1(7-37). Thus, coupling of GLP-1(7-37)-OH with Me(CH ₂) ₁₂ CO-Glu(OSu)-OCMe ₃ (Su = succinimidyl) (preparation given), followed by deesterification with CF ₃ CO ₂ H and chromatog. purification gave 8% bis-adduct Lys[Me(CH ₂) ₁₂ CO-γ-Glu] _{26,34} -GLP-1(7-37)-OH (NNC 90-1167). Several prepared lipophilic GLP-1 analogs were tested for protracted plasma concentration in pigs and were found to be much more persistent than GLP-1(7-37). In addition, the time of peak plasma concentration was found to vary within wide limits		

depending on the particular lipophilic GLP-1 derivative selected. The efficacy of several prepared derivs. was tested by stimulation of cAMP in a cell line expressing cloned human GLP-1 receptor.

ST lipophilic **glucagon** like peptide prepn antidiabetic; antiobesity agent lipophilic **glucagon** like peptide

IT Carboxylic acids, preparation

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(dicarboxylic, long-chain, **glucagon**-like peptide conjugates; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT Fatty acids, preparation

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**glucagon**-like peptide conjugates; preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT Antidiabetic agents

Antiobesity agents

(preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT 106612-94-6

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(preparation of lipophilic human **glucagon**-like peptide-1 derivs. with protracted action profiles)

IT 87805-34-3DP, **Glucagon**-like peptide I (human),

lipophilic derivs. 89750-14-1DP, **Glucagon**-related

peptide I, lipophilic derivs. 99658-04-5DP, lipophilic derivs.

104364-62-7DP, **Glucagon**-related peptide I (guinea pig

clone gpGCG-2), lipophilic derivs. 106612-94-6DP,

Glucagon-like peptide I(7-37) (human), lipophilic derivs.

107444-51-9DP, lipophilic derivs. 121181-17-7DP, **Glucagon**

-related peptide 1 (Octodon degus), lipophilic derivs. 123475-27-4DP,

lipophilic derivs. 123475-28-5DP, lipophilic derivs.

123512-62-9DP, lipophilic derivs. 157569-66-9DP, lipophilic

derivs. 157629-57-7DP, lipophilic derivs. 204521-54-0P

204521-55-1P 204521-56-2P 204521-57-3P

204521-58-4P 204521-59-5P 204521-68-6DP, lipophilic

derivs. 204521-69-7DP, lipophilic derivs. 204521-70-0DP

, lipophilic derivs. 204521-72-2DP, lipophilic derivs.

204521-81-3DP, lipophilic derivs. 204521-82-4DP,

lipophilic derivs. 204521-83-5DP, lipophilic derivs.

204521-84-6DP, lipophilic derivs. 204521-85-7DP,

lipophilic derivs. 204521-86-8DP, lipophilic derivs.

204521-87-9DP, lipophilic derivs. 204521-88-0DP,

lipophilic derivs. 204521-89-1DP, lipophilic derivs.

204521-90-4DP, lipophilic derivs. 204521-91-5DP,

lipophilic derivs. 204521-92-6DP, lipophilic derivs.

204655-84-5DP, lipophilic derivs. 204655-85-6DP,

lipophilic derivs. 204655-86-7DP, lipophilic derivs.

204655-87-8P 204655-88-9P 204655-89-0DP,

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204655-91-4DP, lipophilic derivs. 204655-92-5DP,

lipophilic derivs. 204655-93-6DP, lipophilic derivs.

204655-94-7P 204655-96-9P 204655-97-0P

204655-98-1P 204655-99-2P 204656-00-8P

204656-01-9P 204656-02-0P 204656-03-1DP, lipophilic

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 lipophilic derivs. 204656-95-1DP, lipophilic derivs.
 204656-96-2DP, lipophilic derivs. 204656-97-3DP,
 lipophilic derivs. 204996-97-4P, NNC 901167

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of lipophilic human glucagon-like peptide-1 derivs. with protracted action profiles)

IT 434-13-9, Lithocholic acid 14464-31-4 14464-32-5 45120-30-7,
 L-Glutamic acid α -tert-butyl ester 69888-86-4 128746-57-6
 146004-82-2 146004-83-3 146004-84-4 146004-85-5 204521-68-6
 204521-69-7 204521-70-0 204521-71-1 204521-72-2 204521-73-3
 204521-75-5 204655-83-4 204655-95-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of lipophilic human glucagon-like peptide-1 derivs.
with protracted action profiles)

IT 104211-94-1P 204521-61-9P 204521-63-1P 204521-65-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(preparation of lipophilic human glucagon-like peptide-1 derivs.
with protracted action profiles)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Buckley, D; WO 9111457 A1 1991 HCAPLUS

(2) Chen, V; US 5512549 A 1996 HCAPLUS

(3) London Health Association; WO 9531214 A1 1995 HCAPLUS

L58 ANSWER 15 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:41714 HCAPLUS

DN 128:111161

ED Entered STN: 24 Jan 1998

TI Glucagon-like insulinotropic peptides, compositions and methods

IN Galloway, John A.; Hoffmann, James A.

PA Eli Lilly and Company, USA

SO U.S., 8 pp., Cont.-in-part of U.S. Ser. No. 164,277, abandoned.

CODEN: USXXAM

DT Patent

LA English

IC ICM A61K038-26

ICS C07K014-605

NCL 514012000

CC 2-6 (Mammalian Hormones)

Section cross-reference(s): 63

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5705483	A	19980106	US 1995-407831	19950321 <--
	CA 2137206	AA	19950610	CA 1994-2137206	19941202 <--
	JP 07196695	A2	19950801	JP 1994-303404	19941207 <--
	IN 178440	A	19970426	IN 1995-CA495	19950502 <--
	ZA 9504141	A	19961122	ZA 1995-4141	19950522 <--
	TW 389769	B	20000511	TW 1995-84105110	19950522 <--
	IL 113809	A1	20000726	IL 1995-113809	19950522 <--
	NO 9502034	A	19960923	NO 1995-2034	19950523 <--
	EP 733644	A1	19960925	EP 1995-303423	19950523 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
	HU 74729	A2	19970228	HU 1995-1508	19950523 <--
	EP 1364967	A2	20031126	EP 2003-13464	19950523 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI, LT, LV				
	CA 2150080	AA	19960922	CA 1995-2150080	19950524 <--
	FI 9502536	A	19960922	FI 1995-2536	19950524 <--
	AU 9520268	A1	19961003	AU 1995-20268	19950524 <--
	AU 708159	B2	19990729		
	RU 2147588	C1	20000420	RU 1995-108231	19950525 <--
	PL 182113	B1	20011130	PL 1995-308783	19950525 <--
	CN 1131674	A	19960925	CN 1995-105569	19950526 <--
	JP 08269097	A2	19961015	JP 1995-127910	19950526 <--
	JP 2003048899	A2	20030221	JP 2002-204749	19950526 <--
	BR 9503036	A	19970923	BR 1995-3036	19950630 <--
	US 5977071	A	19991102	US 1997-927227	19970910 <--
	US 6133235	A	20001017	US 1999-348136	19990706 <--
	US 6410513	B1	20020625	US 2000-573809	20000518 <--
	US 6388053	B1	20020514	US 2001-975905	20011012 <--
	US 2002165342	A1	20021107	US 2002-125255	20020417 <--
	JP 2004002480	A2	20040108	JP 2003-312979	20030904 <--
PRAI.	US 1993-164277	B2	19931209		<--

US 1995-407831 A 19950321 <--
 EP 1995-303423 A3 19950523 <--
 JP 1995-127910 A3 19950526 <--
 US 1997-927227 A3 19970910 <--
 US 1999-348136 A1 19990706
 US 2000-573809 A1 20000518
 US 2001-975905 A1 20011012
 OS MARPAT 128:111161
 AB The present invention provides novel complexes consisting of certain GLP-1
 mols. associated with a divalent metal cation that is capable of
 co-precipitating
 with a GLP-1 mol. Pharmaceutical compns. and methods of using such
 complexes for enhancing the expression of insulin in B-type islet cells is
 claimed, as is a method for treating maturity onset diabetes mellitus in
 mammals, particularly humans.
 ST GLP1 metal complex prepn insulintropic
 IT Cations
 (divalent, complexes, with GLP-1 analogs; preparation and formulation of
glucagon-like insulintropic peptides)
 IT Diabetes mellitus
 (non-insulin-dependent; preparation and formulation of **glucagon**
 -like insulintropic peptides)
 IT Antidiabetic agents
 Drug delivery systems
 (preparation and formulation of **glucagon**-like insulintropic
 peptides)
 IT Coordination compounds
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological
 study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
 BIOL (Biological study); PREP (Preparation); USES (Uses)
 (with GLP-1 analogs; preparation and formulation of **glucagon**-like
 insulintropic peptides)
 IT 7440-66-6DP, Zinc, complexes with GLP-1 analogs, biological studies
 7646-85-7DP, Zinc chloride, complexes with GLP-1 analogs
89750-14-1DP, Glucagon-related peptide I, analogs,
 divalent metal complexes 107444-51-9DP, Human **glucagon** like
 peptide-1 (7-36) amide, complexes with divalent cations
194551-05-8DP, complexes with divalent metal cations
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological
 study, unclassified); SPN (Synthetic preparation); **THU (Therapeutic
 use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation and formulation of **glucagon**-like insulintropic
 peptides)
 IT 9004-10-8, Insulin, biological studies
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
 (Biological study); PROC (Process)
 (preparation and formulation of **glucagon**-like insulintropic
 peptides)
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 (6) Anon; WO 9325579 1993 HCAPLUS
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L58 ANSWER 16 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:542509 HCAPLUS

DN 127:201022

ED Entered STN: 25 Aug 1997

TI **Glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants

IN Borts, Tracy L.; Broderick, Carol L.; Dimarchi, Richard D.; Grinnell, Brian W.; Miller, Anne R.

PA Eli Lilly and Co., USA; Borts, Tracy L.; Broderick, Carol L.; Dimarchi, Richard D.; Grinnell, Brian W.; Miller, Anne R.

SO PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C12N005-00

ICS C12N015-00; C12N015-16; C12N015-09; A61K048-00

CC 3-2 (Biochemical Genetics)

Section cross-reference(s): 1, 2, 14

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9729180	A1	19970814	WO 1997-US1978	19970206 <--
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	CA 2243718	AA	19970814	CA 1997-2243718	19970206 <--
	AU 9722631	A1	19970828	AU 1997-22631	19970206 <--
	EP 879279	A1	19981125	EP 1997-905834	19970206 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI, RO			
	JP 2001503963	T2	20010327	JP 1997-528685	19970206 <--
PRAI	US 1996-12111P	P	19960206	<--	
	GB 1996-3847	A	19960223	<--	
	WO 1997-US1978	W	19970206	<--	
OS	MARPAT 127:201022				
AB	The invention provides a gene therapy method for delivering safe and effective, long-term amts. of glucagon -like peptide 1 GLP-1(7-37)-based proteins useful for treating Type I and Type II				

diabetes. The invention eliminates the need for s.c. injections and is able to provide tight glucose control. Plasmid vectors containing GLP-1 were constructed and pGT-h+tLB+GLP-1, pGT-h+tLB+Val8GLP-1, or pMT-h+tLB+Val8GLP-1 was transfected into human embryonic kidney cells. Monoclonal cell lines were screened for the ability to secrete GLP-1(7-37)-based protein into the culture medium. Transformed 293 cells were cultured then surgically transplanted under the kidney capsule of 8 wk old Zucker Diabetic Fatty male rats.

- ST **glucagon** like peptide 1 diabetes therapy; gene therapy GLP 1 peptide recombinant; implant recombinant cell GLP 1 diabetes
- IT Animal cell line
 - (293; **glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)
- IT Metallothioneins
 - RL: BSU (Biological study, unclassified); BIOL (Biological study) (gene promoter, in vector; **glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)
- IT Animal cell line
 - DNA sequences
 - Genetic vectors
 - Immunosuppressants
 - Immunotherapy
 - Mammal (Mammalia)
 - Plasmid vectors
 - Protein sequences
 - Transformation, genetic
 - Transplant and Transplantation
 - (**glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)
- IT Promoter (genetic element)
 - RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (in vector; **glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)
- IT Diabetes mellitus
 - (insulin-dependent; **glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)
- IT Diabetes mellitus
 - (non-insulin-dependent; **glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)
- IT Plasmid vectors
 - (pGT-h+tLB+GLP-1; **glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)
- IT Plasmid vectors
 - (pGT-h+tLB+Val8GLP-1; **glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)
- IT Plasmid vectors
 - (pMT-h+tLB+Val8GLP-1; **glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)
- IT Virus
 - (promoter, in vector; **glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)

IT Secretion (process)
(protein; **glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)

IT 194551-05-8P
RL: BPN (Biosynthetic preparation); PRP (Properties); **THU** (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; **glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)

IT 106612-94-6P, Rat GLP-I(7-37)
RL: BPN (Biosynthetic preparation); PRP (Properties); **THU** (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)

IT 194616-47-2 194616-48-3
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); **THU** (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(nucleotide sequence; **glucagon**-like peptide 1-based protein heterologous expression in transformed mammal cell line, gene therapy of diabetes, and transformed cell line implants)

L58 ANSWER 17 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:485850 HCAPLUS

DN 125:134810

ED Entered STN: 16 Aug 1996

TI Production of peptides using recombinant carbonic anhydrase fusion protein constructs

IN Partridge, Bruce E.; Stout, Jay S.; Henriksen, Dennis B.; Manning, Shane D.; De La Motte, Rebecca S.; Holmquist, Barton; Wagner, Fred W.

PA Bionebraska, Inc., USA

SO PCT Int. Appl., 66 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C12N015-62

ICS C12N009-88; C07K014-60; C07K014-605; C07K014-635; C07K001-30; C07K001-113

CC 3-2 (Biochemical Genetics)

Section cross-reference(s): 1, 34

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9617942	A1	19960613	WO 1995-US15800	19951207 <--
W:	AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK			
RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
CA 2206848	AA	19960613	CA 1995-2206848	19951207 <--
AU 9644158	A1	19960626	AU 1996-44158	19951207 <--
AU 700605	B2	19990107		
EP 796335	A1	19970924	EP 1995-942995	19951207 <--
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE			
JP 10510155	T2	19981006	JP 1996-517724	19951207 <--
PRAI US 1994-350530	A	19941207 <--		
WO 1995-US15800	W	19951207 <--		

- AB A method for the isolation and/or purification of a recombinant peptide by employing a fusion protein construct which includes a carbonic anhydrase and a variable fused polypeptide is provided. The method includes precipitating either the fusion protein construct or a fragment of the fusion protein construct including the carbonic anhydrase. Inclusion bodies which includes the fusion protein construct and a method of producing a peptide which includes expressing the fusion protein construct as a part of an inclusion body are also provided. Fusion protein constructs which include a carbonic anhydrase and certain target peptides are also provided.
- ST carbonic anhydrase fusion recombinant peptide prodn
- IT Staphylococcus aureus
(V8, cleaving agent; production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT Escherichia coli
(host cell; production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT Surfactants
(precipitant; production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT Inclusion bodies
(production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT Peptides, biological studies
RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT Enzymes
RL: CAT (Catalyst use); USES (Uses)
(ubiquitin-cleaving; production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT Chromatography, column and liquid
(affinity, production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT Precipitation
(agents, production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT Denaturants
(chaotropic, precipitant; production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(fusion products, with carbonic anhydrase; production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT Substitution reaction
(thiocyanation, production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT 163912-67-2P
RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(GLP1 (1-34); production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT 127650-06-0P
RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(GLP1 (7-34); production of peptides using recombinant carbonic anhydrase fusion protein constructs)

- fusion protein constructs)
- IT 123475-27-4P
 RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (GLP1 (7-36); production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT 179765-26-5P
 RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (GLP1 (7-37); production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT 163912-74-1P, 1-41-Somatoliberin (human pancreatic islet)
 RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (GRF (1-41); production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT 90599-39-6P
 RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (GRF (1-44); production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT 52232-67-4P
 RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (PTH (1-34); production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT 179800-18-1P
 RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (PTH (1-38); production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT 75-05-8, Acetonitrile, uses 77-92-9, uses 25322-68-3 62309-51-7, Propanol
 RL: NUU (Other use, unclassified); USES (Uses)
 (organic solvent; production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT 50-01-1, Guanidine hydrochloride 57-13-6, Urea, uses 7757-82-6, Sodium sulfate, uses 7783-20-2, Ammonium sulfate, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (precipitant; production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT 9001-03-0DP, Carbonic anhydrase, fusion products with protein
 RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
 (production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT 9002-64-6P, Parathormone 9034-39-3P, Growth hormone releasing factor 86546-19-2P 89750-14-1P, Glucagon-related peptide I
 RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (production of peptides using recombinant carbonic anhydrase fusion protein constructs)
- IT 506-68-3, Cyanogen bromide 7803-49-8, Hydroxylamine, uses 9001-92-7,

Endopeptidase 9002-04-4, Thrombin 9002-05-5, Blood coagulation factor Xa 9002-07-7, Trypsin 9004-07-3, Chymotrypsin 9014-01-1, Subtilisin 9014-74-8, Enterokinase 9015-94-5, Renin, uses 9028-00-6, Clostripain 9046-67-7, Carboxypeptidase y 27933-36-4, BNPS-skatole

RL: CAT (Catalyst use); USES (Uses)

(production of peptides using recombinant carbonic anhydrase fusion protein constructs)

IT 59-66-5D, Acetazolamide, compds. 98-10-2D, Benzenesulfonamide, compds.

RL: NUU (Other use, unclassified); USES (Uses)

(support; production of peptides using recombinant carbonic anhydrase fusion protein constructs)

L58 ANSWER 18 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:483657 HCAPLUS

DN 125:134811

ED Entered STN: 15 Aug 1996

TI Production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications

IN Stout, Jay S.; Patridge, Bruce E.; Heriksen, Dennis B.; Holmquist, Barton; Wagner, Fred W.

PA Bionebraska, Inc., USA

SO PCT Int. Appl., 91 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C12N015-62

ICS C12N015-16; C12N015-60; C07K001-113; C12P021-06; C07K014-635; C07K014-60; C07K014-605; C07K007-22; C12N001-21

CC 3-2 (Biochemical Genetics)

Section cross-reference(s): 1, 10, 16, 34

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9617941	A2	19960613	WO 1995-US15799	19951207 <--
	WO 9617941	A3	19960822		
	W:	AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK			
	RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	AU 9644157	A1	19960626	AU 1996-44157	19951207 <--
	US 6051399	A	20000418	US 1997-934171	19970919 <--
PRAI	US 1994-350528		19941207 <--		
	WO 1995-US15799		19951207 <--		

AB A method for the production of C-terminal amidated recombinant peptides is provided. The method employs a recombinant protein construct having multiple copies of a target peptide linked by intraconnecting peptides. The intraconnecting peptides permit the multicopy construct to be selectively reacted to produce product peptides having a C-terminal α -carboxamide. A recombinant gene containing a DNA sequence coding for the recombinant protein construct and an expression cassette, an expression vector and a transformed cell including the recombinant gene are also provided.

ST amidated peptide prodn recombinant construct therapeutic

IT Staphylococcus aureus

(V8; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT Proteins, biological studies

RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

- (glycine-containing, peptide multicopy construct; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)
- IT Proteins, biological studies
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(homoserine-containing, peptide multicopy construct; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)
- IT Escherichia coli
(host cell; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)
- IT Inclusion bodies
(isolation of recombinant protein construct-containing inclusion body; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)
- IT Antigens
Proteins, biological studies
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(peptide multicopy construct; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)
- IT Gene
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(peptide multicopy construct; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)
- IT Fermentation
Genetic vectors
Molecular cloning
(production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)
- IT Aromatic compounds
RL: CAT (Catalyst use); USES (Uses)
(thiocyanato-, S-cyanylating agent; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)
- IT Enzymes
RL: CAT (Catalyst use); USES (Uses)
(ubiquitin-cleaving, cleavage reagent; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)
- IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(DNA-binding, peptide multicopy construct; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)
- IT Peptides, biological studies
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amides, production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)
- IT Proteins, specific or class
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(arginine-containing, peptide multicopy construct; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT Proteins, specific or class

RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(cysteine-containing, peptide multicopy construct; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT Proteins, specific or class

RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(histidine-rich, peptide multicopy construct; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT Proteins, specific or class, biological studies

RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(ligand-binding, peptide multicopy construct; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT Proteins, specific or class

RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(methionine-containing, peptide multicopy construct; production of

C-terminal

amidated peptides from recombinant protein constructs and therapeutic applications)

IT Genetic element

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(promoter, production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT Substitution reaction

(thiocyanation, production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT Amidation

(trans-, precursor peptide transamidation in exopeptidase presence; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT 90597-47-0, PeptidylGlycine monooxygenase

RL: CAT (Catalyst use); USES (Uses)

(C-terminal glycine decomposition to form amidated peptide; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT 123475-28-5P

RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(GLP1 (7-35), target peptide; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT 90599-39-6P

RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(GRF (1-44), target peptide; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT 52232-67-4P

RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified);

PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(PTH (1-34) target peptide; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT 30211-77-9, 2-Nitro-5-thiocyanatobenzoic acid 59016-56-7,
1-Cyano-4-(dimethylamino)pyridinium tetrafluoroborate 179695-01-3
179695-03-5
RL: CAT (Catalyst use); USES (Uses)
(S-cyanylating agent; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT 506-68-3, Cyanogen bromide 9001-33-6, Ficin 9001-73-4, Papain
9001-92-7, Endopeptidase 9002-04-4, Thrombin 9002-05-5, Blood
coagulation factor Xa 9002-07-7, Trypsin 9004-07-3, Chymotrypsin
9014-01-1, Subtilisin 9014-74-8, Enterokinase 9015-94-5, Renin, uses
9028-00-6, Clostripain
RL: CAT (Catalyst use); USES (Uses)
(cleavage reagent; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT 9001-03-0P, Carbonic anhydrase
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified);
PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(peptide multicopy construct; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT 9031-96-3, Exopeptidase
RL: CAT (Catalyst use); USES (Uses)
(precursor peptide transamidation in exopeptidase presence; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT 1904-78-5, 2-Nitrobenzylamine 9031-98-5, Carboxypeptidase 9046-67-7,
Carboxypeptidase Y
RL: CAT (Catalyst use); USES (Uses)
(precursor peptide transamidation; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT 14280-30-9, Hydroxide, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with S-cyanylated peptide to produce precursor peptide; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

IT 33507-63-0P, Substance P
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified);
PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(target peptide; production of C-terminal amidated peptides from recombinant protein constructs and therapeutic applications)

L58 ANSWER 19 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:621604 HCAPLUS
DN 123:28218
ED Entered STN: 20 Jun 1995
TI Enzymatic method for modification of recombinant polypeptides
IN Wagner, Fred W.; Stout, Jay; Henriksen, Dennis; Partridge, Bruce; Manning, Shane
PA Bionebraska, Inc., USA
SO PCT Int. Appl., 70 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N015-11
ICS C12P021-06; C07K014-605; C07K014-60; C12N001-21; A61K038-20;
A61K038-22
CC 6-3 (General Biochemistry)

Section cross-reference(s): 1, 9

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9503405	A2	19950202	WO 1994-US8125	19940719 <--
	WO 9503405	A3	19950316		
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN				
	RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 5512459	A	19960430	US 1993-95162	19930720 <--
	CA 2166870	AA	19950202	CA 1994-2166870	19940719 <--
	AU 9480094	A1	19950220	AU 1994-80094	19940719 <--
	AU 693815	B2	19980709		
	JP 09500279	T2	19970114	JP 1994-505268	19940719 <--
	EP 789760	A2	19970820	EP 1994-931264	19940719 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	US 5707826	A	19980113	US 1995-470220	19950606 <--
	US 6037143	A	20000314	US 1997-967374	19971107 <--
	US 6403361	B1	20020611	US 2000-505991	20000217 <--
PRAI	US 1993-95162	A	19930720	<--	
	WO 1994-US8125	W	19940719	<--	
	US 1995-470220	A3	19950606	<--	
	US 1995-520485	B1	19950829	<--	
	US 1997-967374	A1	19971107	<--	
AB	An enzymic method is provided for the formation of a recombinant polypeptide which has been modified at the C-terminal end through the use of a transpeptidation process. The method is suitable for modifying recombinant polypeptides of any source including those which may be com. available, those derived from recombinant single copy or multi-copy polypeptide constructs, or those derived from single or multi-copy recombinant fusion proteins constructs. The transpeptidation reaction involves contacting an endopeptidase enzyme with a recombinant polypeptide to substitute and addition unit, of one or more acids, for leaving unit, linked to a core polypeptide through a cleavage site recognized by the endopeptidase enzyme. Recombinant polypeptides derived from multi-copy polypeptide constructs may be cleaved from the multi-copy polypeptide at the N-terminal and C-terminal ends and simultaneously undergo substitution of the leaving unit by the desired addition unit. The invention utilizes known and newly discovered cleavage recognition sites of effectuate the desired modification products. Preparation of C-terminally amidated glucagon like peptide 1 and growth hormone releasing factor using trypsin and thrombin, resp., as an endopeptidase was demonstrated.				
ST	recombinant peptide carboxy terminus amidation				
IT	Antidiabetics and Hypoglycemics				
	(C-terminally amidated glucagon like peptide 1 for)				
IT	Osteoporosis				
	(C-terminally amidated growth hormone releasing factor for treatment of)				
IT	Escherichia coli				
	(fusion protein prepared in transgenic Escherichia coli for modification via transpeptidation)				
IT	Eukaryote				
	(fusion protein prepared in transgenic eukaryotes for modification via transpeptidation)				
IT	Prokaryote				
	(fusion protein prepared in transgenic prokaryotes for modification via transpeptidation)				
IT	Animal growth				
	(disorder, short-stature, C-terminally amidated growth hormone releasing factor for treatment of)				
IT	Uterus, disease				

- (endometriosis, C-terminally amidated growth hormone releasing factor for treatment of)
- IT Amidation
(trans-, enzymic method for modification of recombinant polypeptides by transpeptidation)
- IT 163912-67-2P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(1-34-Glucagon like peptide 1; enzymic method for C-terminally amidation of)
- IT 163912-74-1P, 1-41-Somatoliberin (human pancreatic islet)
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(1-41-growth hormone releasing factor; enzymic method for C-terminally amidation of)
- IT 83930-13-6P, Somatoliberin (human pancreatic islet)
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(1-44-growth hormone releasing factor derivative; enzymic method for C-terminally amidation of)
- IT 127650-06-0P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(7-34-Glucagon like peptide 1; enzymic method for C-terminally amidation of)
- IT 89750-14-1P, Glucagon-related peptide I
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(enzymic method for amidation of C-terminus of glucagon like peptide 1)
- IT 9034-39-3P, Growth hormone releasing factor
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(enzymic method for amidation of C-terminus of growth hormone releasing factor)
- IT 106612-94-6P 107444-51-9P 119637-73-9P
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(glucagon like peptide 1 derivative; enzymic method for C-terminally amidation of)
- IT 9001-03-0D, Carbonic anhydrase, fusion products with glucagon like peptide 1
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(in enzymic amidation of C-terminus of glucagon like peptide 1)
- IT 9001-33-6, Ficin 9001-73-4, Papain 9001-92-7, Endopeptidase 9002-04-4, Thrombin 9002-07-7, Trypsin 9004-07-3, Chymotrypsin 9013-55-2, Blood-coagulation factor XI 9014-01-1, Subtilisin 9014-74-8, Enterokinase 37259-58-8, Serine endopeptidase 37353-41-6, Cysteine endopeptidase
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(in enzymic method for modification of recombinant polypeptides by transpeptidation)
- IT 163918-02-3 163918-03-4
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(in modification of recombinant polypeptides by transpeptidation using thrombin)
- IT 24326-03-2 55033-47-1
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(in modification of recombinant polypeptides by transpeptidation using trypsin)

L58 ANSWER 20 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1995:257836 HCAPLUS
 DN 122:38834
 ED Entered STN: 22 Dec 1994
 TI Prolonged delivery of antidiabetic peptides
 IN Danley, Dennis Edward; Gelfand, Robert Alan; Geoghegan, Kieran Francis;
 Yesook, Kim; Lambert, William Joseph; Hong, Qi
 PA Pfizer Inc., USA
 SO Eur. Pat. Appl., 70 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM C07K007-34
 ICS C07K007-10; A61K037-28
 CC 63-6 (Pharmaceuticals)
 Section cross-reference(s): 2
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 619322	A2	19941012	EP 1994-300981	19940210 <--
	EP 619322	A3	19960313		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
	NO 9400436	A	19941010	NO 1994-436	19940209 <--
	AU 9455016	A1	19941013	AU 1994-55016	19940209 <--
	AU 682328	B2	19971002		
	ZA 9400878	A	19950810	ZA 1994-878	19940209 <--
	PL 180697	B1	20010330	PL 1994-302370	19940224 <--
	CA 2116478	AA	19941008	CA 1994-2116478	19940225 <--
	CA 2116478	C	20021203		
	JP 07002695	A2	19950106	JP 1994-35948	19940307 <--
	RU 2126264	C1	19990220	RU 1994-7084	19940307 <--
	JP 2001158749	A2	20010612	JP 2000-317228	19940307 <--
	BR 9401185	A	19941018	BR 1994-1185	19940316 <--
	CN 1106698	A	19950816	CN 1994-104491	19940407 <--
	CN 1080123	B	20020306		
	US 6284727	B1	20010904	US 1995-472349	19950607 <--
	US 2003050237	A1	20030313	US 2001-943084	20010831 <--
PRAI	US 1993-44133	A	19930407	<--	
	US 1994-181655	B1	19940125	<--	
	JP 1994-35948	A3	19940307	<--	
	US 1995-472349	A1	19950607	<--	

AB Noninsulin-dependent diabetes mellitus is treated in a mammal by prolonged administration of peptide 7-37 of **glucagon**-like peptide 1 (insulinotropin, GLP-1) and related peptides, especially in combination with a polymer matrix, in a water-immiscible oil suspension, in a complex with Zn or other metals, in a complex with a basic polypeptide or phenolic compound, in a liposome delivery system, or after subjection to conditions resulting in amorph. or crystalline material formation (e.g. high shear or exposure to salts) to prolong the release of the peptide. Thus, a solution containing 2 mg insulinotropin/mL phosphate-buffered saline (PBS) was mixed with an equal volume of a solution of 0.6 mg protamine and 4.4 mg PhOH/mL in PBS to produce an aqueous suspension.

ST insulinotropin prolonged release; antidiabetic peptide prolonged release

IT Phenols, biological studies
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (combinations with peptides; prolonged delivery of antidiabetic peptides)

IT Polyamides, biological studies
 Polyanhydrides
 Polyesters, biological studies

Polymers, biological studies
 Polysaccharides, biological studies
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (matrixes; prolonged delivery of antidiabetic peptides)

IT Shear
 (peptide insolubilization by; prolonged delivery of antidiabetic peptides)

IT Salts, biological studies
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (peptide insolubilization by; prolonged delivery of antidiabetic peptides)

IT Antidiabetics and Hypoglycemics
 (prolonged delivery of antidiabetic peptides)

IT Castor oil
 Coconut oil
 Corn oil
 Cottonseed oil
 Fats and Glyceridic oils
 Olive oil
 Peanut oil
 Safflower oil
 Soybean oil
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (suspensions; prolonged delivery of antidiabetic peptides)

IT Fats and Glyceridic oils
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (almond, suspensions; prolonged delivery of antidiabetic peptides)

IT Proteins, specific or class
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (basic, complexes, with peptides; prolonged delivery of antidiabetic peptides)

IT Ortho acids
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (esters, polymers, as matrixes; prolonged delivery of antidiabetic peptides)

IT Fatty acids, biological studies
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (esters, suspensions; prolonged delivery of antidiabetic peptides)

IT Alcohols, biological studies
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (fatty, esters, suspensions; prolonged delivery of antidiabetic peptides)

IT Pharmaceutical dosage forms
 (liposomes, prolonged delivery of antidiabetic peptides)

IT Fats and Glyceridic oils
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (sesame, suspensions; prolonged delivery of antidiabetic peptides)

IT Protamines
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (sulfates, peptide complexes; prolonged delivery of antidiabetic peptides)

IT Fats and Glyceridic oils
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (teased, suspensions; prolonged delivery of antidiabetic peptides)

IT 99-76-3, Methyl paraben 108-39-4, biological studies 108-46-3, Resorcinol, biological studies 108-95-2, Phenol, biological studies 1319-77-3, Cresol
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (combinations with peptides; prolonged delivery of antidiabetic peptides)

IT 9000-01-5, Gum acacia 9000-07-1, Carrageenan 9000-21-9, Furcellaran 9000-30-0, Guar gum 9000-36-6, Karaya gum 9000-65-1, Gum tragacanth 9002-89-5, PVA 9003-11-6, Ethylene glycol/propylene glycol copolymer

9003-39-8, PVP 9004-34-6, Cellulose, biological studies 9004-34-6D, Cellulose, derivs. 9004-54-0, Dextran, biological studies 9004-61-9, Hyaluronic acid 9004-62-0, Hydroxyethylcellulose 9005-25-8, Starch, biological studies 9005-25-8D, Starch, derivs. 9005-32-7, Alginic acid 9012-36-6, Agarose 9012-76-4, Chitosan 11138-66-2, Xanthan gum 25322-68-3, PEG

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(matrix; prolonged delivery of antidiabetic peptides)

IT 127-09-3, Sodium acetate 141-53-7, Sodium formate 557-34-6, Zinc acetate 631-61-8, Ammonium acetate 994-36-5, Sodium citrate 6484-52-2, Ammonium nitrate, biological studies 7447-40-7, Potassium chloride, biological studies 7447-41-8, Lithium chloride, biological studies 7487-88-9, Magnesium sulfate, biological studies 7632-05-5, Sodium phosphate 7632-50-0, Ammonium citrate 7646-79-9, Cobalt chloride, biological studies 7646-85-7, Zinc chloride, biological studies 7647-14-5, Sodium chloride, biological studies 7757-82-6, Sodium sulfate, biological studies 7758-11-4, Dipotassium hydrogen phosphate 7773-01-5, Manganese chloride 7783-20-2, Ammonium sulfate, biological studies 7786-30-3, Magnesium chloride, biological studies 7786-81-4, Nickel sulfate 10043-52-4, Calcium chloride, biological studies 10377-48-7, Lithium sulfate 12125-02-9, Ammonium chloride, biological studies 16068-46-5, Potassium phosphate

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(peptide insolubilization by; prolonged delivery of antidiabetic peptides)

IT 87805-34-3 106612-94-6, Insulinotropin 107444-51-9 121181-17-7 123475-27-4 123475-28-5 127650-06-0

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(prolonged delivery of antidiabetic peptides)

IT 7439-89-6D, Iron, peptide complexes 7439-95-4D, Magnesium, peptide complexes 7439-96-5D, Manganese, peptide complexes 7440-02-0D, Nickel, peptide complexes 7440-09-7D, Potassium, peptide complexes 7440-48-4D, Cobalt, peptide complexes 7440-50-8D, Copper, peptide complexes 7440-66-6D, Zinc, peptide complexes 7440-70-2D, Calcium, peptide complexes

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(prolonged delivery of antidiabetic peptides)

L58 ANSWER 21 OF 21 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1994:580232 HCAPLUS

DN 121:180232

ED Entered STN: 15 Oct 1994

TI Preparation of **glucagon**-like peptide and insulinotropin derivatives for treating type II diabetes.

IN Andrews, Glenn C.; Daumy, Gaston O.; Francoeur, Michael L.; Larson, Eric R.

PA Pfizer Inc., USA

SO PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07K007-34

ICS A61K037-43

CC 34-3 (Amino Acids, Peptides, and Proteins)

Section cross-reference(s): 1

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9325579	A1	19931223	WO 1993-US3388	19930414 <--
	W: AU, BR, CA, CZ, DE, JP, KR, NO, NZ, PL, RU, SK, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

AU 9340275 A1 19940104 AU 1993-40275 19930414 <--
 AU 671117 B2 19960815
 EP 646128 A1 19950405 EP 1993-909505 19930414 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE
 JP 07504679 T2 19950525 JP 1993-501448 19930414 <--
 JP 2575298 B2 19970122
 BR 9306551 A 19980915 BR 1993-6551 19930414 <--
 PL 176007 B1 19990331 PL 1993-306766 19930414 <--
 RU 2128663 C1 19990410 RU 1994-46251 19930414 <--
 EP 969016 A2 20000105 EP 1999-110184 19930414 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE
 IL 120890 A1 20000831 IL 1993-120890 19930607 <--
 HU 64367 A2 19931228 HU 1993-1739 19930614 <--
 CN 1085913 A 19940427 CN 1993-108718 19930614 <--
 CN 1057098 B 20001004
 NO 9404853 A 19941214 NO 1994-4853 19941214 <--
 PRAI US 1992-899073 A1 19920615 <--
 EP 1993-909505 A3 19930414 <--
 WO 1993-US3388 A 19930414 <--
 IL 1993-105928 A3 19930607 <--
 OS MARPAT 121:180232
 AB H2NWC02H (W = His-Asp-Glu-Phe-Glu-Arg-His-Ala-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-Lys-Glu-Phe-Ile-Ala-Trp-Leu-Val-Lys-Gly-Arg-Gly, His-Asp-Glu-Phe-Glu-Arg-His-Ala-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-Lys-Glu-Phe-Ile-Ala-Trp-Leu-Val-Lys-Gly-Arg), and derivs. thereof, having pI ≤ 4 or ≥ 7 , were prepared having insulinotropic activity (no data). Thus, H-His-Ala-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-Lys-Glu-Phe-Ile-Ala-Trp-Leu-Val-Lys-Gly-Arg-Gly-Arg-NH₂ was prepared by solid phase synthesis using BOC-protected amino acids on benzhydrylamine resin. The invention also relates to new uses of certain known derivs. of insulinotropin and truncated insulinotropin to enhance insulin action in a mammal by iontophoretic administration of such derivs.
 ST insulinotropin deriv prepn diabetes treatment; **glucagon** like peptide antidiabetic; iontophoresis insulinotropin deriv
 IT Iontophoresis
 (administration of **glucagon**-like peptide and insulinotropin derivs by)
 IT Antidiabetics and Hypoglycemics
 (**glucagon**-like peptide and insulinotropin derivs)
 IT Peptides, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of **glucagon**-like peptide and insulinotropin derivs for treatment of type II diabetes)
 IT 157507-31-8DP, resin bound
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, as intermediate for drug for enhancing insulin action)
 IT 87805-34-3P 106612-94-6P 121181-17-7P 123475-27-4P
 123475-28-5P 127650-06-0P 157507-31-8P
 157569-66-9DP, succinoylated 157569-66-9P 157629-57-7P 157629-58-8P
 157629-61-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, for enhancing insulin action)
 IT 108-30-5, reactions 13836-37-8, BOC-Arg(Tos)-OH 15260-10-3,
 BOC-Thr(Bzl)-OH 23680-31-1, BOC-Ser(Bzl)-OH 47355-10-2,
 BOC-Trp(CHO)-OH 47689-67-8, BOC-Tyr(Br-Z)-OH 54613-99-9,
 BOC-Lys(Cl-Z)-OH 73821-95-1, BOC-Asp(OCyHex)-OH 73821-97-3,
 BOC-Glu(OCyHex)-OH 83468-83-1, BOC-His(BOM)-OH
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, in preparation of peptide drug for enhancing insulin action)

=> => d his 158-

(FILE 'HCAPLUS' ENTERED AT 16:26:20 ON 22 JAN 2004)

L58 21 S L53,L57

FILE 'REGISTRY' ENTERED AT 16:31:50 ON 22 JAN 2004

FILE 'HCAPLUS' ENTERED AT 16:33:19 ON 22 JAN 2004

L59 9 S L34 NOT L58

=> d all hitstr tot

L59 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:335587 HCAPLUS

DN 133:3760

ED Entered STN: 19 May 2000

TI Enzymatic amidation of peptides

IN Dormady, Dan; Stout, Jay S.; Strydom, Daniel J.; Holmquist, Barton;
Wagner, Fred W.

PA Bionebraska, Inc., USA

SO PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C12P021-06

ICS C12N009-50; C07K014-605

CC 16-2 (Fermentation and Bioindustrial Chemistry)

Section cross-reference(s): 34

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000028067	A1	20000518	WO 1999-US26060	19991105 <--
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6461834	B1	20021008	US 1998-212663	19981216 <--
EP 1127155	A1	20010829	EP 1999-956920	19991105 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002529101	T2	20020910	JP 2000-581233	19991105 <--
AU 755130	B2	20021205	AU 2000-13423	19991105 <--
ZA 2001002694	A	20021002	ZA 2001-2694	20010402 <--
NO 2001002232	A	20010504	NO 2001-2232	20010504 <--
PRAI US 1998-107311P	P	19981106 <--		
US 1998-212663	A2	19981216 <--		
WO 1999-US26060	W	19991105		

AB The invention provides a method of producing a polypeptide having a C-terminal α -carboxamide group. It particularly concerns an enzymic modification of selected substrate polypeptides which result in cleavage of the substrate polypeptide to form a product peptide with a C-terminal arginine residue having an α -carboxamide group (C-terminal "Arg-NH₂"). The method includes contacting an aqueous-based solution including (i) NH₃ reagent and (ii) the substrate polypeptide with (iii) clostripain.

ST clostripain peptide cleavage amidation

IT Amidation

(enzymic amidation of peptides)

IT Peptides, biological studies

RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BPR

(Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(enzymic amidation of peptides)

IT Immobilization, biochemical

(of clostripain for enzymic amidation of peptides)

IT 9028-00-6P, Clostripain

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); CAT (Catalyst use); PEP (Physical, engineering or chemical process); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(enzymic amidation of peptides)

IT 269080-54-8P 269080-55-9P

RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)

(enzymic amidation of peptides)

IT 269080-56-0 269080-57-1 269080-58-2 269080-59-3 269080-60-6

269080-61-7 269080-62-8 269080-63-9 269080-64-0 269080-65-1

269080-66-2 269080-67-3 269080-68-4 269080-69-5 270069-93-7

270069-94-8

RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)

(enzymic amidation of peptides)

IT 68-12-2, biological studies 75-05-8, Acetonitrile, biological studies

75-89-8 108-32-7, Propylene carbonate 3483-12-3, Dithiothreitol

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(enzymic amidation of peptides)

IT 631-61-8, Ammonium acetate 1336-21-6, Ammonium hydroxide 7783-20-2, Ammonium sulfate, biological studies 12125-02-9, Ammonium chloride, biological studies

RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)

(of clostripain for enzymic amidation of peptides)

IT 123475-27-4 127650-06-0 270056-54-7 270079-01-1

RL: PRP (Properties)

(unclaimed protein sequence; enzymic amidation of peptides)

IT 269731-05-7

RL: PRP (Properties)

(unclaimed sequence; enzymic amidation of peptides)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Bionebraska Inc; WO 9401451 A 1994 HCAPLUS

(2) Bionebraska Inc; WO 9617941 A 1996 HCAPLUS

(3) Calsberg, A; WO 9520039 A 1995 HCAPLUS

(4) Hoechst Ag; EP 0474212 A 1992 HCAPLUS

(5) Hoechst Ag; EP 0518088 A 1992 HCAPLUS

(6) Kembhavi, A; FEBS LETTERS 1991, V283(2), P277 HCAPLUS

(7) Kernforschungsanlage Juelich; EP 0401657 A 1990 HCAPLUS

IT 127650-06-0

RL: PRP (Properties)

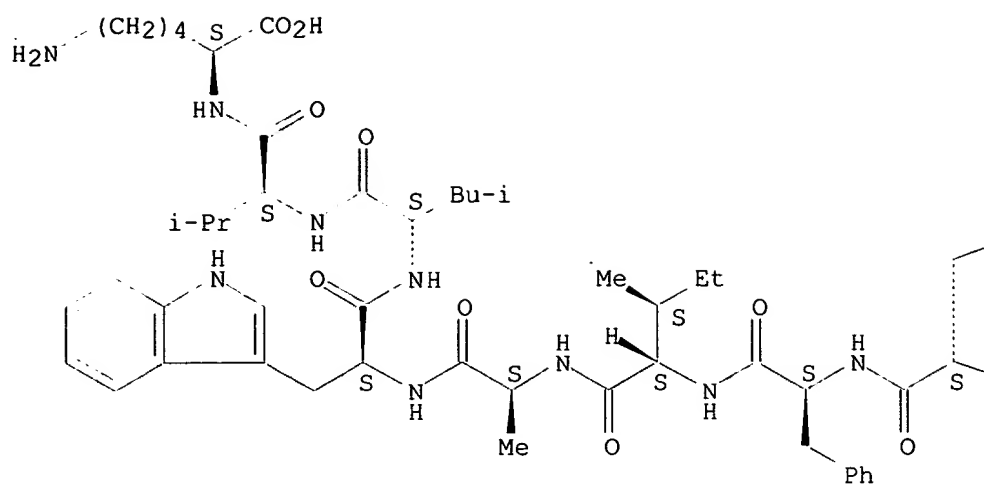
(unclaimed protein sequence; enzymic amidation of peptides)

RN 127650-06-0 HCAPLUS

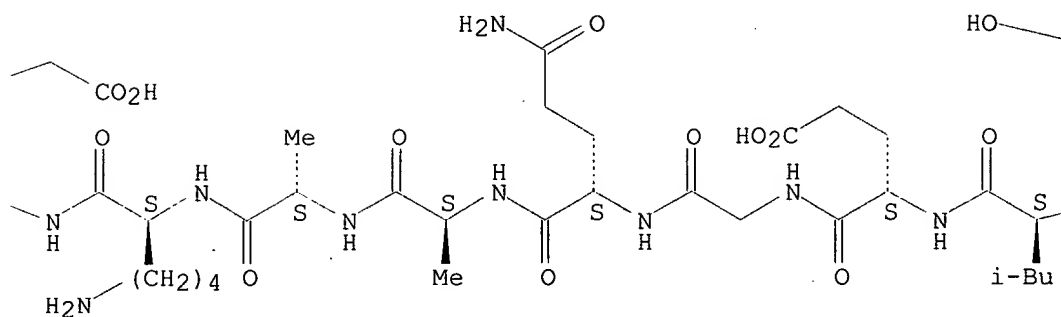
CN L-Lysine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutamyl-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

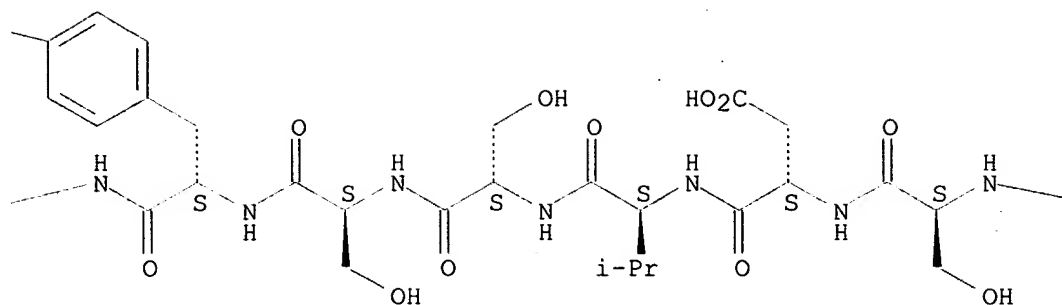
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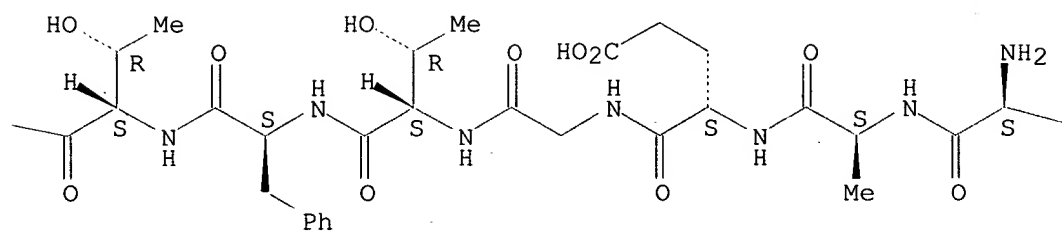
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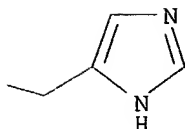
PAGE 1-C



PAGE 1-D



PAGE 1-E



L59 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1997:43882 HCAPLUS
 DN 126:127176
 ED Entered STN: 20 Jan 1997
 TI **Glucagon-like peptide-1-(9-36) amide** is a major metabolite of **glucagon-like peptide-1-(7-36) amide** after in vivo administration to dogs, and it acts as an antagonist on the pancreatic receptor
 AU Knudsen, Lotte Bjerre; Pridal, Lone
 CS Novo Nordisk, Novo Alle, DK-2880, Bagsvaerd, Den.
 SO European Journal of Pharmacology (1996), 318(2/3), 429-435
 CODEN: EJPHAZ; ISSN: 0014-2999
 PB Elsevier
 DT Journal
 LA English
 CC 2-6 (Mammalian Hormones)
 AB This study assesses the importance of metabolites formed following exogenous administration of **glucagon-like peptide-1-(7-36) amide** (GLP-1). After s.c. administration of GLP-1 to dogs the plasma immunoreactivity of GLP-1 measured by two different RIAs were higher than that measured by a sandwich ELISA. This discrepancy was due to the formation of the metabolites GLP-1-(9-36) amide, GLP-1-(7-35) and GLP-1-(7-34). Receptor binding studies using baby hamster kidney cells expressing the human pancreatic GLP-1 receptor showed that the affinity of GLP-1-(9-36) amide, GLP-1-(7-35) and GLP-1-(7-34) was 0.95, 12 and 2.8, resp., of the affinity of GLP-1-(7-36) amide. Furthermore, GLP-1-(9-36) amide was shown to be an antagonist to adenylyl cyclase activity, whereas GLP-1-(7-35) and GLP-1-(7-34) were shown to be agonists. GLP-1-(9-36) amide was shown to be present in vivo in amts. up to 10-fold that of GLP-1-(7-36) amide. Due to its low binding affinity, this antagonistic metabolite does not seem to be able to cause physiol. antagonism upon s.c. administration of the peptide.
 ST glucagonlike peptide fragment metabolite pancreas receptor
 IT Pancreas
 (glucagon-like peptide-1-(9-36) amide is major metabolite of glucagon-like peptide-1-(7-36) amide after in vivo administration to dogs and an antagonist on pancreatic receptor)
 IT **Glucagon-like peptide-1 receptors**
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
 (glucagon-like peptide-1-(9-36) amide is major metabolite of glucagon-like peptide-1-(7-36) amide after in vivo administration to dogs and an antagonist on pancreatic receptor)
 IT 161748-29-4

RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence)

(glucagon-like peptide-1-(9-36) amide is major metabolite of glucagon-like peptide-1-(7-36) amide after in vivo administration to dogs and an antagonist on pancreatic receptor)

IT 118549-37-4, Insulinotropin

RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(glucagon-like peptide-1-(9-36) amide is major metabolite of glucagon-like peptide-1-(7-36) amide after in vivo administration to dogs and an antagonist on pancreatic receptor)

IT 123475-28-5 127650-06-0

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)

(glucagon-like peptide-1-(9-36) amide is major metabolite of glucagon-like peptide-1-(7-36) amide after in vivo administration to dogs and an antagonist on pancreatic receptor)

IT 9012-42-4, Adenyl cyclase

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(glucagon-like peptide-1-(9-36) amide is major metabolite of glucagon-like peptide-1-(7-36) amide after in vivo administration to dogs and an antagonist on pancreatic receptor)

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Adelhorst, K; J Biol Chem 1994, V269, P6275 HCAPLUS
- (2) Cottrell, D; Clin Res 1992, V40, P734A
- (3) Deacon, C; Diabetes 1995, V44, P1126 HCAPLUS
- (4) Deacon, C; J Clin Endocrinol Metab 1995, V80, P952 HCAPLUS
- (5) Drejer, K; Diabetes 1991, V40, P1588
- (6) Elliot, R; J Endocrinol 1993, V138, P179
- (7) Frohman, L; J Clin Invest 1989, V83, P1533 HCAPLUS
- (8) Gallwitz, B; Endocrinol Metab 1995, V2, P39 HCAPLUS
- (9) Gallwitz, B; Eur J Biochem 1994, V225, P1151 HCAPLUS
- (10) Gefel, D; Endocrinology 1990, V126, P2164 HCAPLUS
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- (12) Gutniak, M; New Engl J Med 1992, V326, P1316 MEDLINE
- (13) Hvidberg, A; Metabolism 1994, V43, P104 HCAPLUS
- (14) Jornvall, H; FEBS Lett 1981, V123, P205 MEDLINE
- (15) Mentlein, R; Eur J Biochem 1993, V215, P829
- (16) Mojsov, S; Int J Pept Protein Res 1992, V40, P333 MEDLINE
- (17) Nauck, M; Diabetologia 1993, V36, P741 MEDLINE
- (18) Pridal, L; Eur J Drug Metab Pharmacokin 1996, V21, P51 HCAPLUS
- (19) Pridal, L; J Pharm Biomed Anal 1995, V13, P841 HCAPLUS
- (20) Robberecht, P; Pancreas 1988, V3, P529 MEDLINE
- (21) Rorstad, O; Mol Pharmacol 1990, V37, P971 HCAPLUS
- (22) Schmidt, W; Diabetologia 1986, V29, P591A
- (23) Suzuki, S; Endocrinology 1989, V125, P3109 HCAPLUS
- (24) Thorell, J; Biochim Biophys Acta 1971, V251, P363 HCAPLUS
- (25) Unson, C; Proc Natl Acad Sci USA 1987, V84, P4083 HCAPLUS

IT 123475-28-5 127650-06-0

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)

(glucagon-like peptide-1-(9-36) amide is major metabolite of glucagon-like peptide-1-(7-36) amide after in vivo administration to dogs and an antagonist on pancreatic receptor)

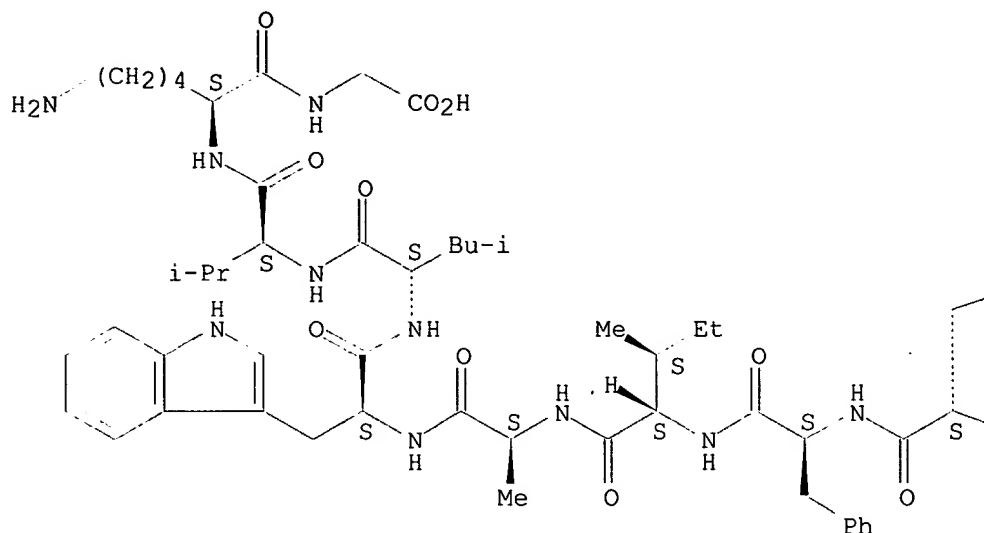
RN 123475-28-5 HCAPLUS

CN Glycine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-

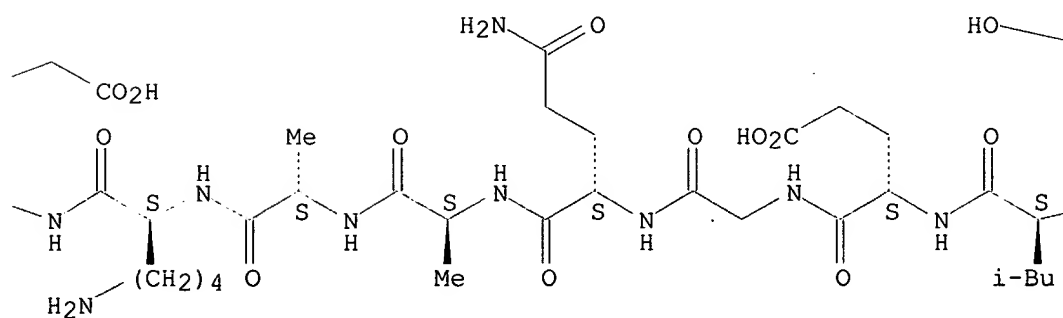
phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutamyl-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl-L-lysyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

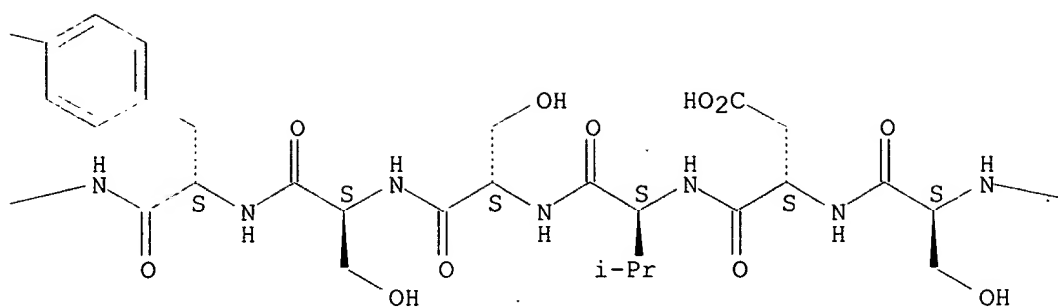
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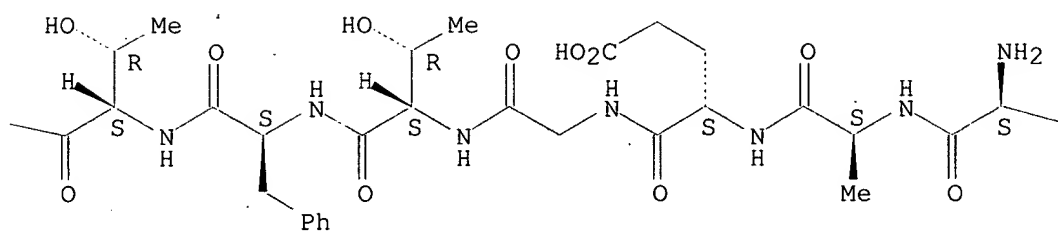
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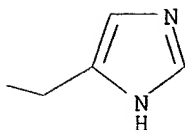
PAGE 1-C



PAGE 1-D



PAGE 1-E

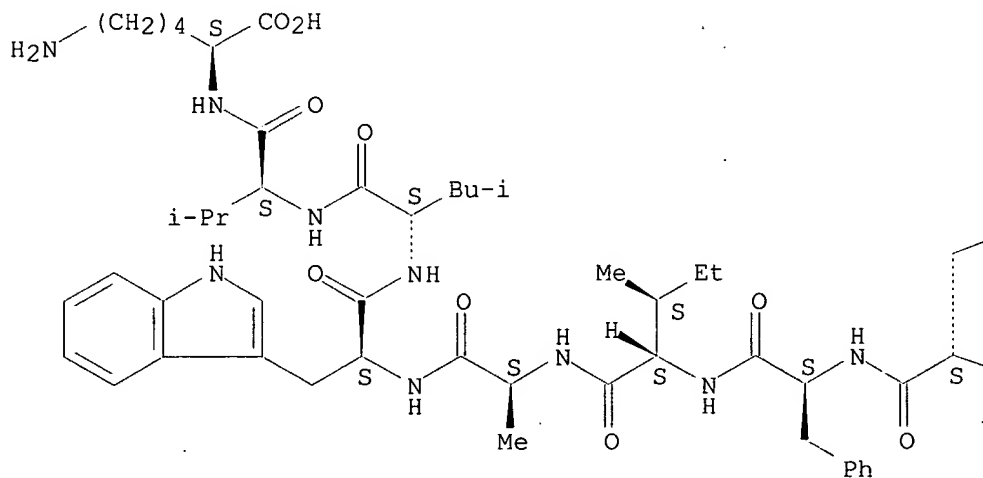


RN 127650-06-0 HCAPLUS

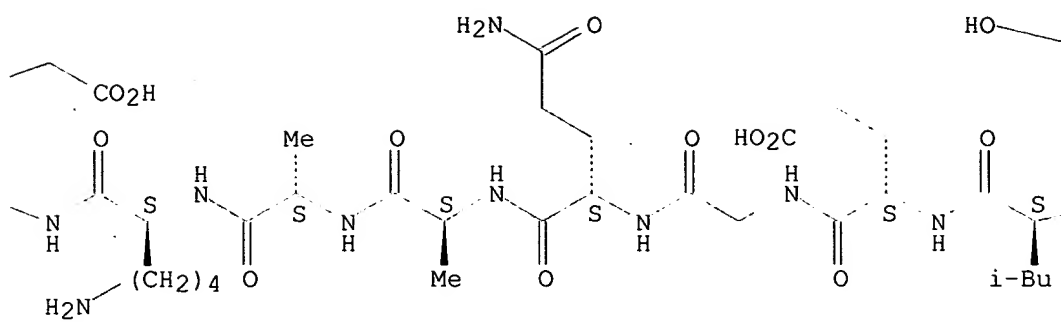
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Absolute stereochemistry.

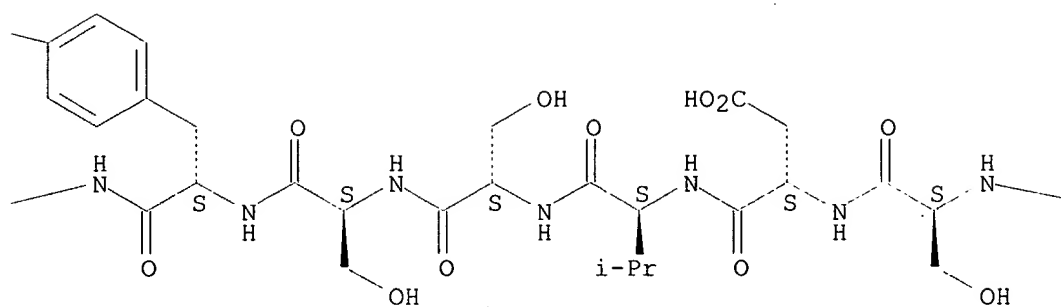
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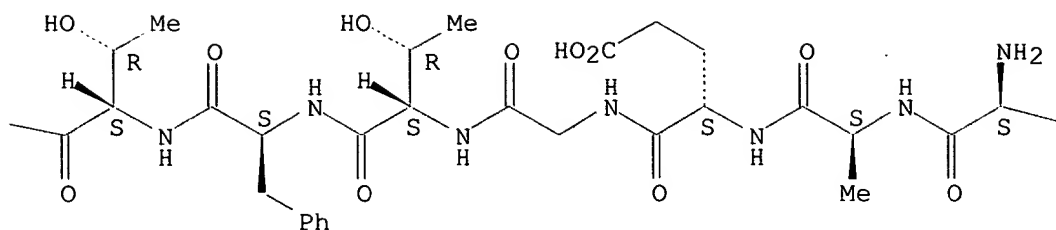
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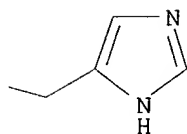
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PAGE 1-D



PAGE 1-E



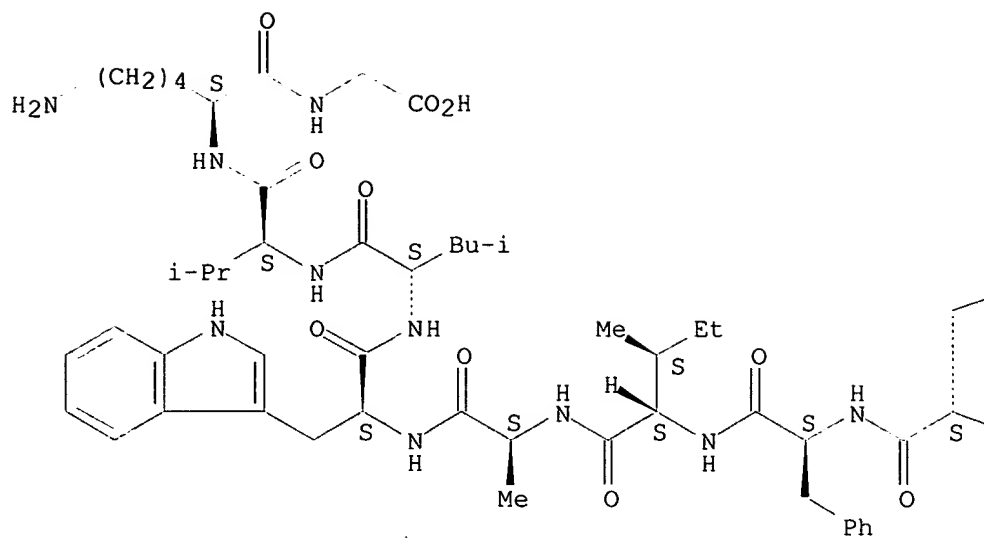
L59 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1993:94498 HCAPLUS
 DN 118:94498
 ED Entered STN: 19 Mar 1993
 TI Structural requirements for biological activity of **glucagon-like peptide-I**
 AU Moiso, Svetlana
 CS Rockefeller Univ., New York, NY, USA
 SO International Journal of Peptide & Protein Research (1992),
 40(3-4), 333-43
 CODEN: IJPPC3; ISSN: 0367-8377
 DT Journal
 LA English
 CC 2-2 (Mammalian Hormones)
 Section cross-reference(s): 34
 AB **Glucagon-like peptide-I (GLP-I)** is encoded together with **glucagon** by the **glucagon** gene and is related in its structure to the **glucagon-secretin** family of peptides. Three of the predicted forms of the peptide, a 37-residue long GLP-I(1-37), a 31-residue GLP-I(7-37) and a 30-residue GLP-I(7-36) amide as well as 3

analogs des[Gly37,Arg36]GLP-I(7-37), des[Gly37,Arg36,Gly35]GLP-I(7-37) and des[His7]GLP-I(7-37) were synthesized by the stepwise solid phase method. These synthetic peptides were used to define the structural domains required for the binding of GLP-I to the pancreatic β -cell. The competitive binding expts. showed that both the amino and carboxyl terminal domains of the mol. contribute to GLP-I binding. In these expts. **glucagon**, another peptide that stimulates insulin secretion, was a weak full agonist of GLP-I binding. Results from these studies provide further characterization of the physiol. role of this new peptide.

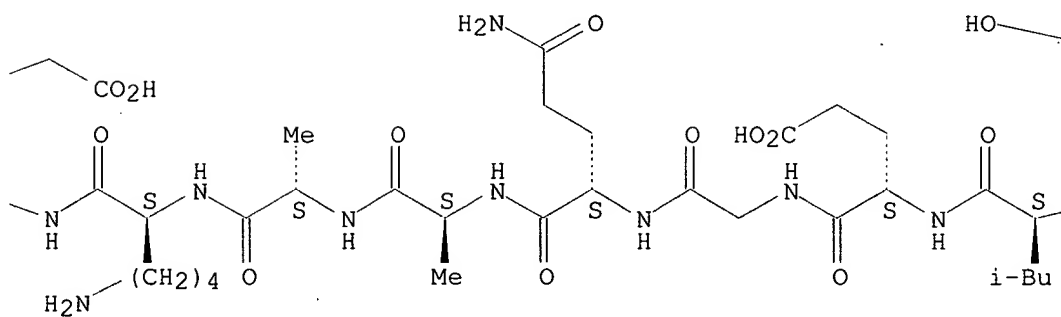
- ST **glucagon** like peptide structure activity; peptide prepn
glucagon like
- IT Receptors
 RL: BIOL (Biological study)
 (**glucagon**-related peptide I, of pancreatic islet β -cell, ligand binding by, structure in relation to)
- IT Molecular structure-biological activity relationship
 (receptor-binding, of **glucagon**-like peptide I analogs)
- IT Pancreatic islet of Langerhans
 (β -cell, **glucagon**-like peptide I receptors of, ligand binding by, structure in relation to)
- IT 87805-34-3P, Rat GLP-I(1-37) 106612-94-6P, Rat GLP-I(7-37)
 107444-51-9P, Rat GLP-I(7-36)amide **123475-28-5P** 127633-64-1P
127650-06-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and pancreatic islet receptor binding of, structure in relation to)
- IT **89750-14-1, Glucagon**-like peptide I
 RL: BIOL (Biological study)
 (receptor for, of pancreatic islet β -cell)
- IT **123475-28-5P 127650-06-0P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and pancreatic islet receptor binding of, structure in relation to)
- RN 123475-28-5 HCAPLUS
- CN Glycine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutaminy-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl-L-lysyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

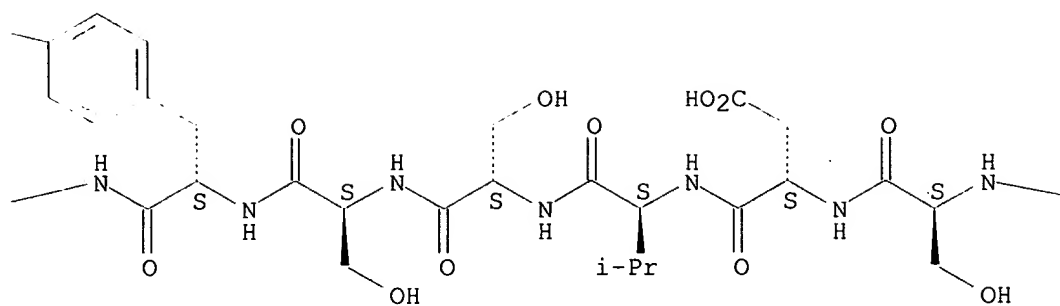
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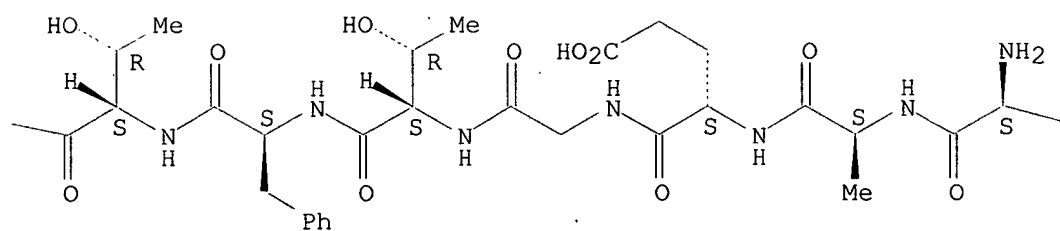
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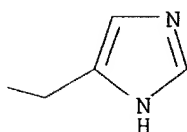
PAGE 1-C



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PAGE 1-E

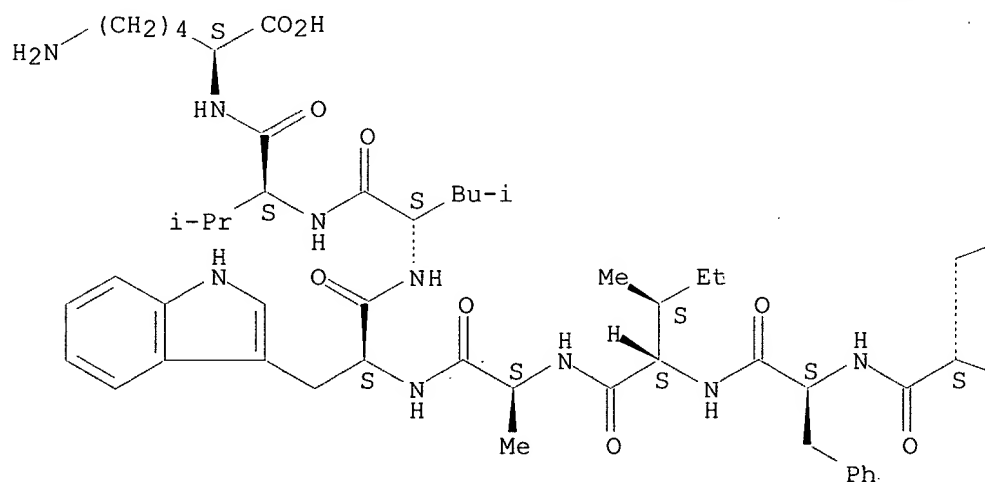


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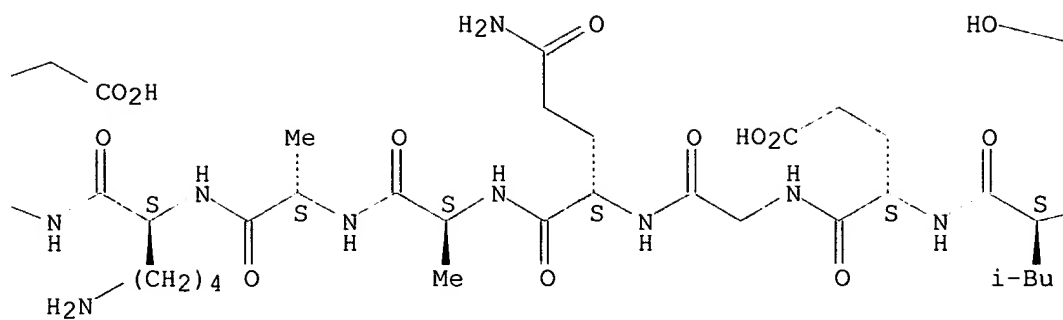
L-Lysine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutaminy-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

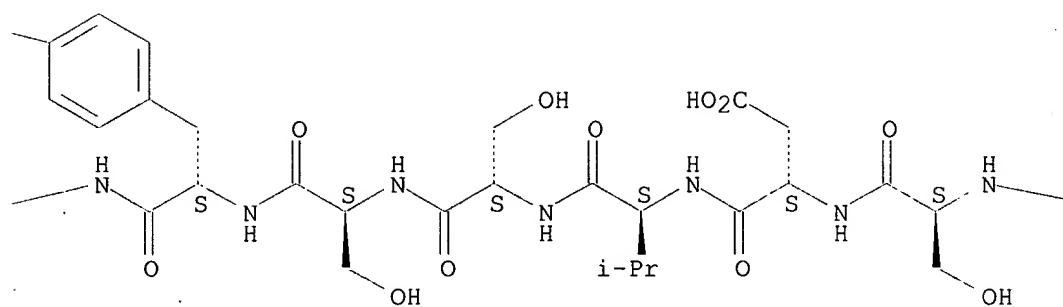
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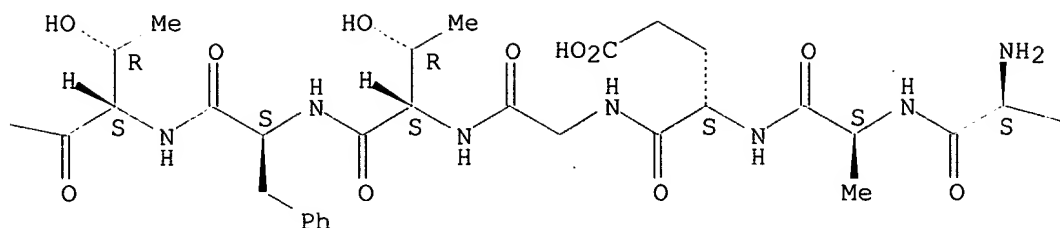
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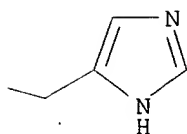
PAGE 1-C



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IT 89750-14-1, **Glucagon**-like peptide I
 RL: BIOL (Biological study)
 (receptor for, of pancreatic islet β -cell)
 RN 89750-14-1 HCAPLUS
 CN Glucagon-like peptide I (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L59 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1992:35159 HCAPLUS
 DN 116:35159
 ED Entered STN: 08 Feb 1992
 TI **Glucagon**-like peptide-1 (Glp-1) analogs useful for diabetes
 treatment
 IN Buckley, Douglas I.; Habener, Joel F.; Mallory, Joanne B.; Mojsov,
 Svetlana
 PA USA
 SO PCT Int. Appl., 50 pp.
 CODEN: PIXXD2
 DT Patent
 LA English

IC ICM C07K007-34
ICS C07K007-10; A61K037-02; A61K037-28
CC 2-6 (Mammalian Hormones)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9111457	A1	19910808	WO 1991-US500	19910124 <--
	W: CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
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	CA 2073856	C	20021203		
	EP 512042	A1	19921111	EP 1991-903738	19910124 <--
	EP 512042	B1	19980408		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	JP 05506427	T2	19930922	JP 1991-503618	19910124 <--
	JP 3262329	B2	20020304		
	AT 164852	E	19980415	AT 1991-903738	19910124 <--
	ES 2113879	T3	19980516	ES 1991-903738	19910124 <--
	JP 2001151798	A2	20010605	JP 2000-311202	19910124 <--
	JP 2003192698	A2	20030709	JP 2002-315982	19910124 <--
	US 5545618	A	19960813	US 1993-165516	19931210 <--
PRAI	US 1990-468736	A2	19900124	<--	
	JP 1991-503618	A3	19910124	<--	
	JP 2000-311202	A3	19910124	<--	
	WO 1991-US500	W	19910124	<--	
	US 1991-762768	A1	19910920	<--	
AB	The invention provides effective analogs of the active GLP-1 peptides, 7-34, 7-35, 7-36, and 7-37, which have improved characteristics for treatment of diabetes Type II. These analogs have amino acid substitutions at positions 7-10 and/or are truncated at the C-terminus and/or contain various other amino acid substitutions in the basic peptide. The analogs may either have an enhanced capacity to stimulate insulin production as compared to glucagon or may exhibit enhanced stability in plasma as compared to GLP-1 (7-37) or both. Either of these properties will enhance the potency of the analog as a therapeutic. Analogs having D-amino acid substitutions in the 7 and 8 positions and/or N-alkylated or N-acylated amino acids in the 7 position are particularly resistant to degradation in vivo. Activity and stability data for selected peptides are included.				
ST	glucagon like peptide analog diabetes				
IT	Antidiabetics and Hypoglycemics				
	(glucagon-like peptide-1 analogs as, for type II diabetes treatment)				
IT	Peptides, biological studies				
	RL: BIOL (Biological study)				
	(glucagon-like peptide-2 analogs, for type II diabetes treatment)				
IT	Molecular structure-biological activity relationship				
	(of glucagon -like peptide-1 analogs, insulin stimulation and diabetes type II treatment in relation to)				
IT	Protein sequences				
	(of glucagon -like peptide-2 analogs)				
IT	106612-94-6	107444-51-9	119637-73-9	123475-27-4	123475-28-5
	127650-06-0	138324-89-7	138324-90-0	138324-91-1	
	138324-92-2	138324-93-3	138324-94-4	138324-95-5	138324-96-6
	138324-97-7	138324-98-8	138324-99-9	138325-00-5	138347-75-8
	138347-76-9				
	RL: BIOL (Biological study)				
	(for diabetes type II treatment)				
IT	138347-77-0				
	RL: BIOL (Biological study)				
	(glucagon-like peptide-1 analogs stability in relation to)				
IT	138325-01-6				

RL: BIOL (Biological study)
 (insulin-stimulating activity of, diabetes type II treatment in relation to)

IT 9004-10-8, Insulin, biological studies
 RL: BIOL (Biological study)
 (stimulation of, glucagon-like peptide-1 analogs for, for diabetes type II treatment)

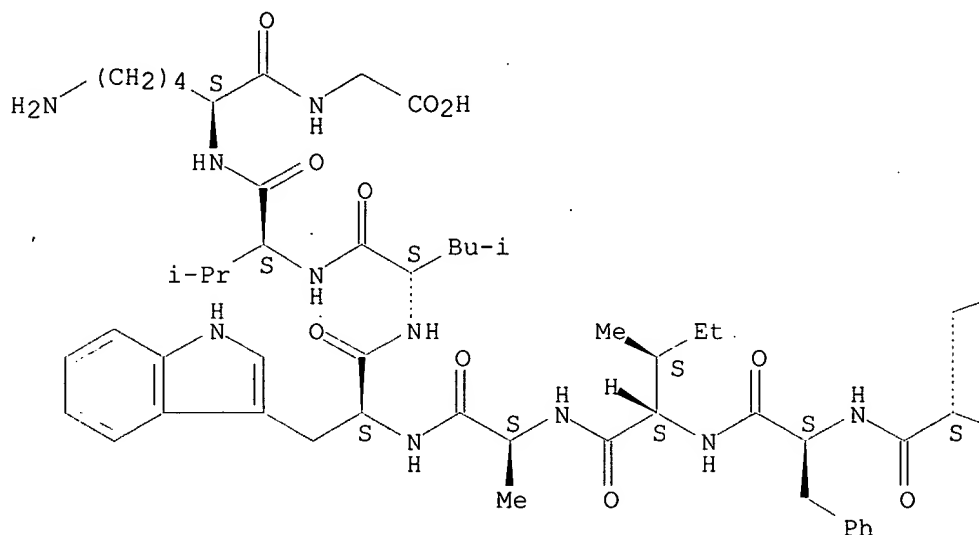
IT 123475-28-5 127650-06-0
 RL: BIOL (Biological study)
 (for diabetes type II treatment)

RN 123475-28-5 HCAPLUS

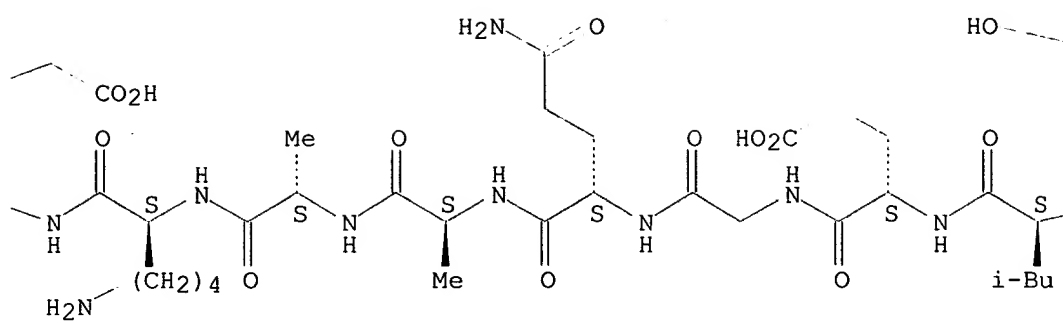
CN Glycine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutaminy-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl-L-lysyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

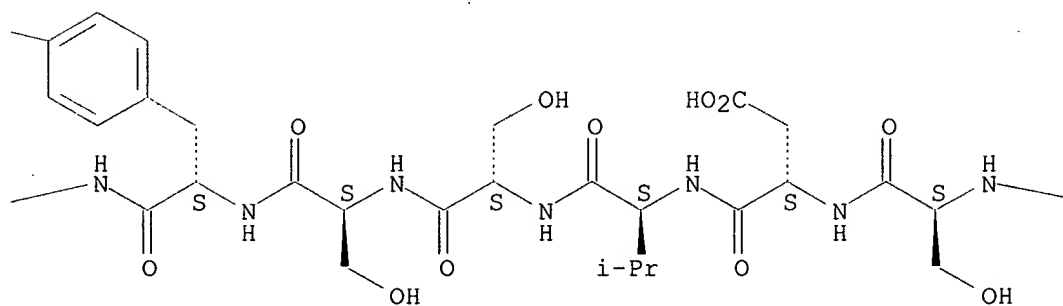
PAGE 1-A



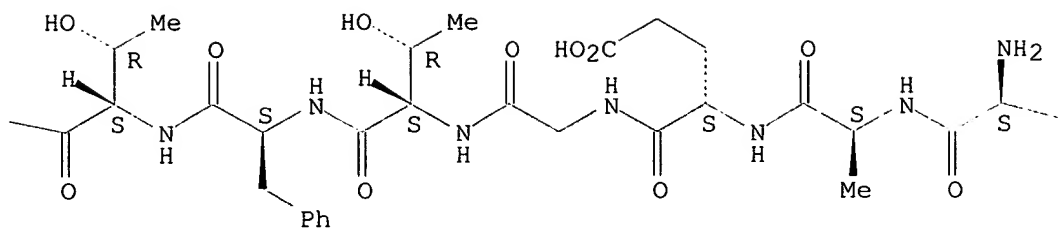
PAGE 1-B



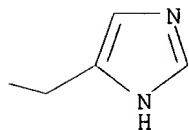
PAGE 1-C



PAGE 1-D



PAGE 1-E

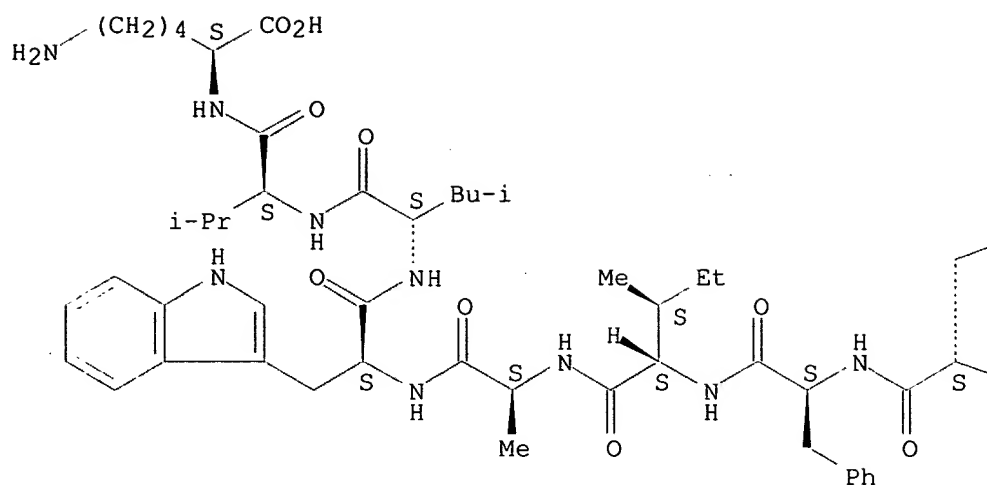


RN 127650-06-0 HCAPLUS

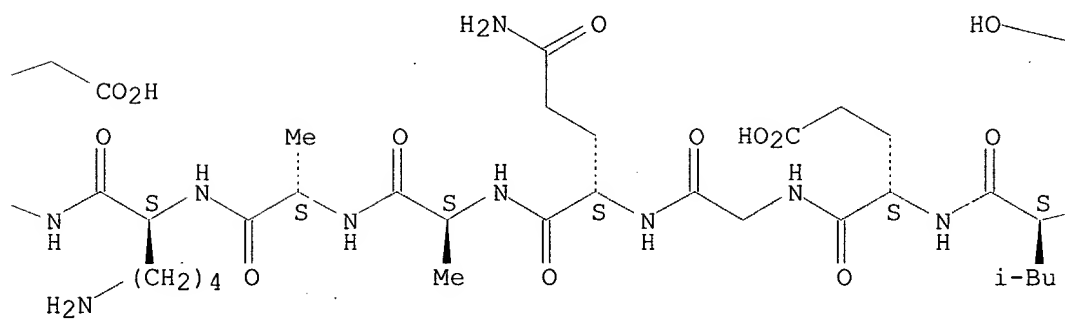
CN L-Lysine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutamyl-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

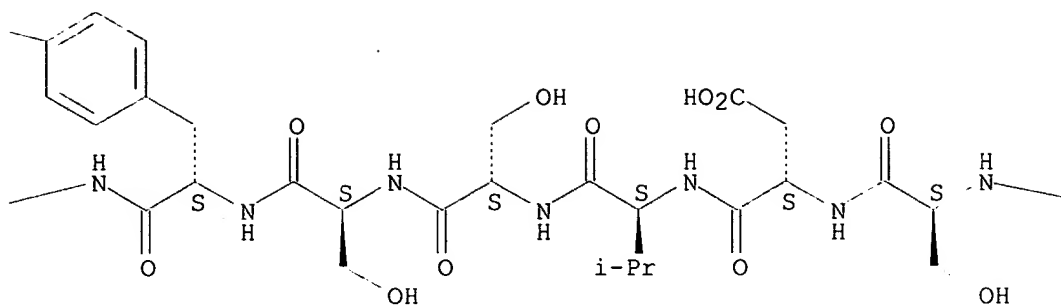
PAGE 1-A



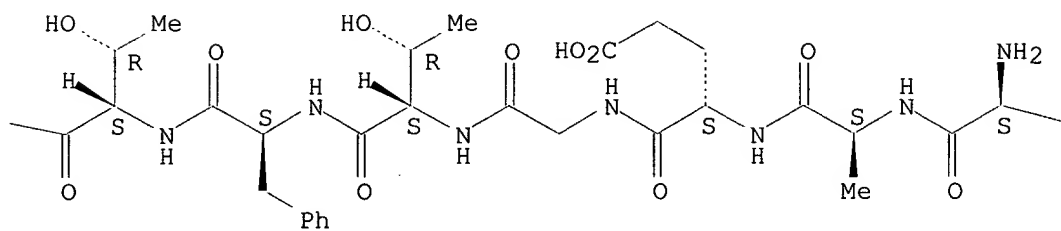
PAGE 1-B



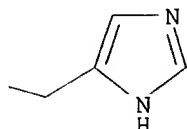
PAGE 1-C



PAGE 1-D



PAGE 1-E



L59 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1991:527780 HCAPLUS

DN 115:127780

ED Entered STN: 05 Oct 1991

TI Effects of truncated **glucagon**-like peptide-1 on pancreatic hormone release in normal conscious dogs

AU Kawai, Koichi; Suzuki, Seiji; Ohashi, Shinichi; Mukai, Hidehito; Murayma, Yasuko; Yamashita, Kamejiro

CS Inst. Clin. Med., Univ. Tsukuba, Tsukuba, 305, Japan

SO Acta Endocrinologica (1990), 123(6), 661-7

CODEN: ACENA7; ISSN: 0001-5598

DT Journal

LA English

CC 2-6 (Mammalian Hormones)

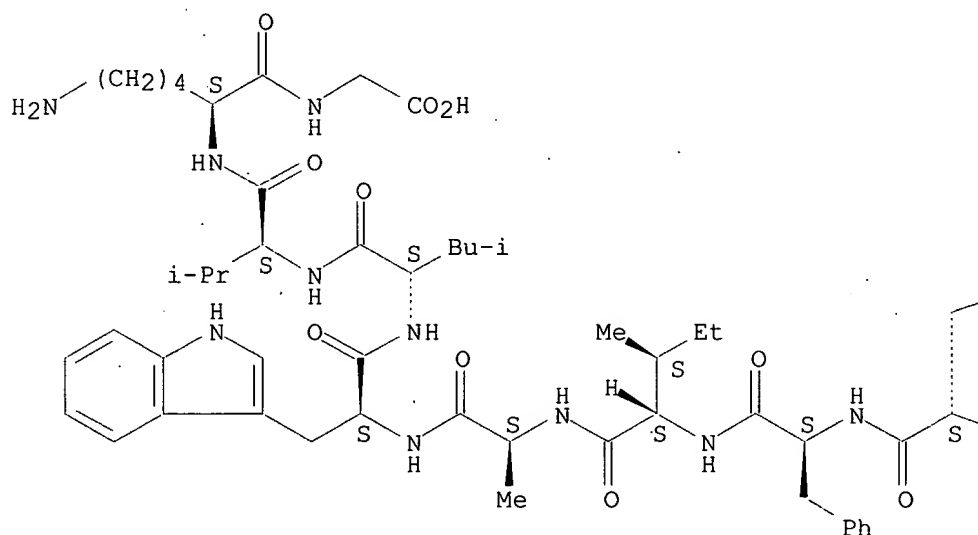
AB The effects of truncated **glucagon**-like peptide-1 (GLP-1) on insulin and **glucagon** release were examined in unanesthetized normal dogs. A bolus injection of GLP-1(7-36)amide elicited a transient increase in the plasma insulin level, which brought about a decrease in the plasma glucose level. The degree of increase in plasma insulin levels with GLP-1(7-35)OH or GLP-1(7-37)OH was less than that induced by GLP-1(7-36)amide. The plasma **glucagon** level did not increase in spite of mild hypoglycemia. The infusion of graded doses of GLP-1(7-36)amide (6, 36, 120 ng/kg/min every 30 min) did not change the plasma glucose, insulin or **glucagon** levels significantly. The degree of increase in the plasma glucose level induced by i.v. glucose infusion (12 mg/kg/min) was reduced by coinfusion of GLP-1(7-36)amide (6 ng/kg/min), although the degree of increase in the plasma insulin level was the same as that in a control experiment (coinfusion of the vehicle). Coinfusion of GLP-1(7-36)amide (60 ng/kg/min) caused an augmented increase in the plasma insulin level and a reduced increase in the plasma glucose level during i.v. glucose infusion (17 mg/kg/min) compared with the control experiment. The degree of decrease in the plasma **glucagon** level during i.v. glucose infusion was not affected by the coinfusion. The degree of increase in the plasma **glucagon** level induced by insulin hypoglycemia and the profile of the plasma glucose level at that time were not affected by the infusion of GLP-1(7-36)amide. These results demonstrate that the insulinotropic activity of GLP-1(7-36)amide is higher than that of GLP-1(7-37)OH or GLP-1(7-35)OH, GLP-1(7-36)amide suppresses the degree of increase in plasma glucose level during i.v. glucose infusion by augmented insulin release, and the glucagonostatic activity of truncated GLP-1 is negligible under physiol. conditions.

ST truncated glucagonlike peptide pancreas hormone; insulinotropic pancreas insulin **glucagon**

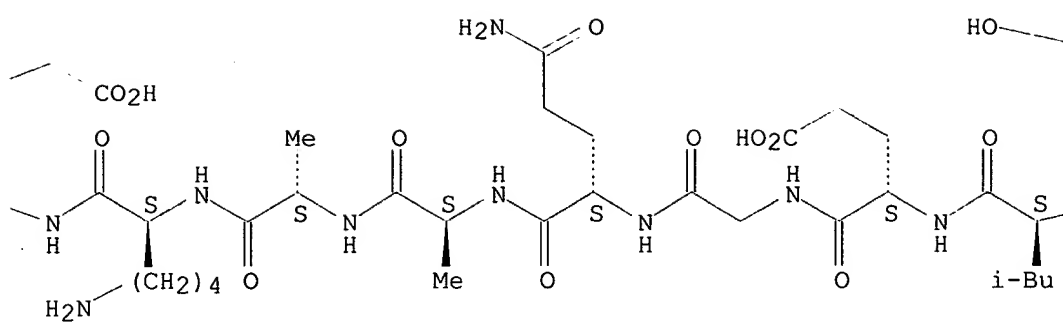
- IT 107444-51-9 116964-93-3 118549-37-4, Insulinotropin
 123475-28-5 135995-72-1
 RL: BIOL (Biological study)
 (glucagon and insulin secretion response to)
- IT 50-99-7, Glucose, biological studies
 RL: BIOL (Biological study)
 (insulin release response to, truncated glucagon-like peptide-1 effect on)
- IT 9004-10-8, Insulin, biological studies 9007-92-5, Glucagon, biological studies
 RL: BIOL (Biological study)
 (secretion of, truncated glucagon-like peptide-1 effect on)
- IT 123475-28-5
 RL: BIOL (Biological study)
 (glucagon and insulin secretion response to)
- RN 123475-28-5 HCAPLUS
- CN Glycine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutamyl-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl-L-lysyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

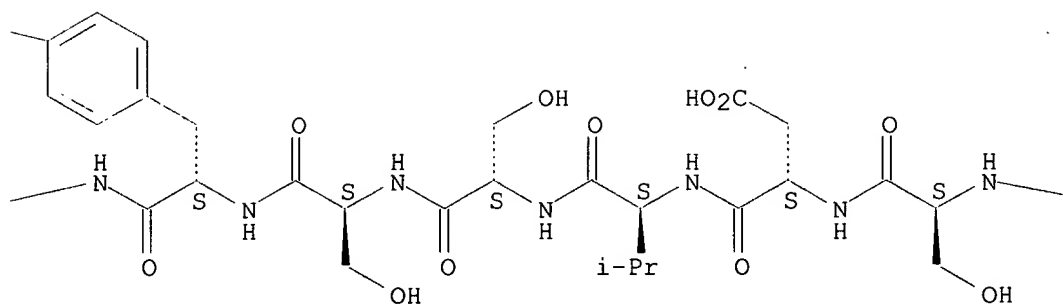
PAGE 1-A



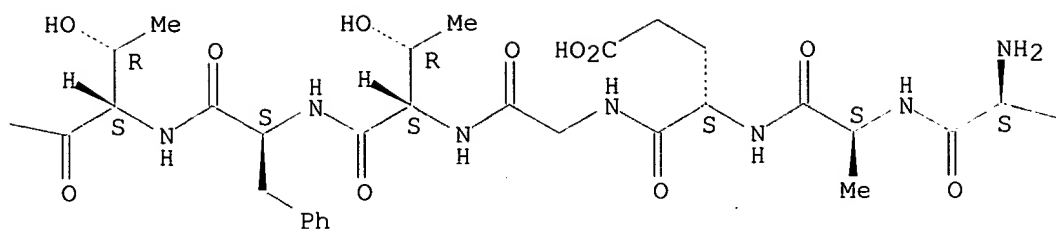
PAGE 1-B



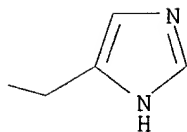
PAGE 1-C



PAGE 1-D



PAGE 1-E



L59 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:417962 HCAPLUS
DN 113:17962
ED Entered STN: 21 Jul 1990
TI **Glucagon-like peptide-I** analogs: effects on insulin secretion
and adenosine 3',5'-monophosphate formation
AU Gefel, Dov; Hendrick, Grant K.; Mojssov, Svetlana; Habener, Joel; Weir,
Gordon C.
CS Joslin Diabetes Cent., Boston, MA, 02215, USA
SO Endocrinology (1990), 126(4), 2164-8
CODEN: ENDOAO; ISSN: 0013-7227
DT Journal
LA English
CC 2-2 (Mammalian Hormones)
AB **Glucagon-like peptide I-(7-37)** [GLP-I-(7-37)], a 31-amino acid

hormone which may have an important role in the regulation of insulin secretion, is processed from preproglucagon and found in the pancreas, brain, and intestine. It was previously reported that GLP-I-(7-37) is a potent insulin secretagogue, its effect being indistinguishable from that of GLP-I-(7-36) amide at concns. of 10^{-11} M. Insulinotropic effects of addnl. GLP-I analogs are reported. GLP-I-(7-34) had no stimulatory effect on insulin release at 10^{-10} M, but had a partial effect at 10^{-9} M and was as active as GLP-I-(7-37) at 10^{-8} M. GLP-I-(7-33) had no effect at any concentration tested. GLP-I-(8-37) had no effect on insulin release at 10^{-9}

and

10^{-8} M, but did have an effect at the high concentration of 10^{-7} M. Similar results were found with cAMP formation in the β TC1 line. In this system, GLP-I-(7-34) was less potent than GLP-I-(7-37) at a concentration of 5×10^{-9} M. GLP-I-(7-33) had only about 0.1% the potency of GLP-I-(7-37); thus, there is good agreement between cAMP formation in the β -cell line and insulin secretion from the perfused pancreas expts. Histidine in the 7 position in the N-terminus of GLP-I-(7-37) is apparently crucial for cAMP formation and insulin secretion, and removal of the last three C-terminus residues of GLP-I-(7-37) results in only partial loss of activity; the residue in the 34 position is, however, essential for the insulinotropic action.

ST glucagonlike peptide analog insulin cAMP; insulinotropin structure activity

IT Molecular structure-biological activity relationship
(cAMP formation-stimulating, of **glucagon**-like peptide I analogs)

IT Molecular structure-biological activity relationship
(insulin-releasing, of **glucagon**-like peptide I analogs)

IT 89750-14-1D, **Glucagon**-like peptide I, analogs
106612-94-6, **Glucagon**-like peptide I(7-37) 123475-29-6,
Glucagon-like peptide I(7-33) 127633-64-1, **Glucagon**-like peptide I(8-37) 127650-06-0, **Glucagon**-like peptide I(7-34)

RL: BIOL (Biological study)
(cAMP formation and insulin secretion response to)

IT 107444-51-9, **Glucagon**-like peptide I(7-36) amide
123475-28-5, **Glucagon**-like peptide I(7-35)

RL: BIOL (Biological study)
(cAMP formation response to)

IT 60-92-4
RL: FORM (Formation, nonpreparative)
(formation of, by insulinoma cell line, **glucagon**-like peptide I analogs effect on)

IT 9004-10-8, Insulin, biological studies
RL: BIOL (Biological study)
(secretion of, by insulinoma cell line, **glucagon**-like peptide I analogs effect on)

IT 89750-14-1D, **Glucagon**-like peptide I, analogs
127650-06-0, **Glucagon**-like peptide I(7-34)
RL: BIOL (Biological study)
(cAMP formation and insulin secretion response to)

RN 89750-14-1 HCAPLUS

CN **Glucagon**-like peptide I (9CI) (CA INDEX NAME)

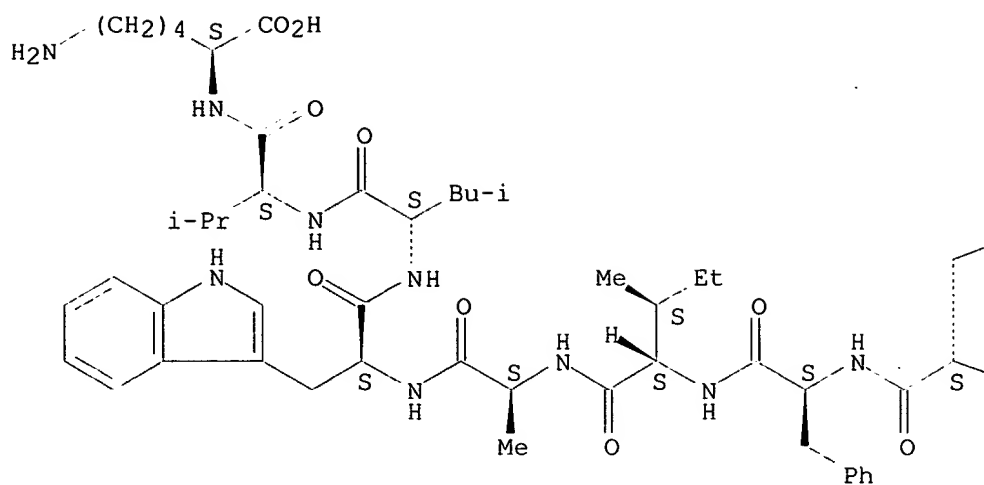
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 127650-06-0 HCAPLUS

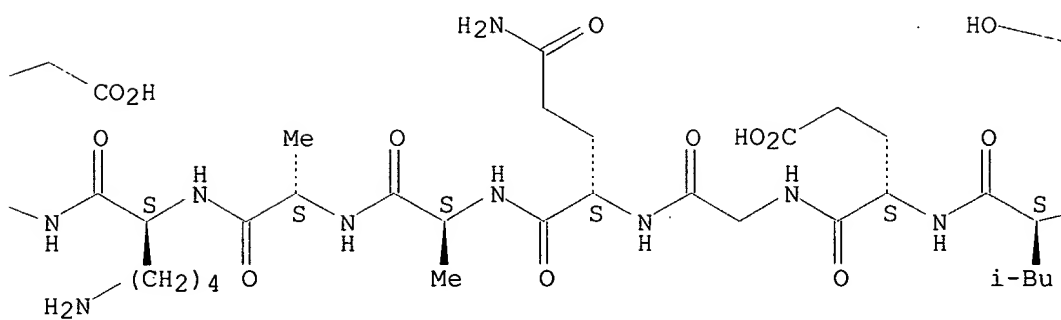
CN L-Lysine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutamyl-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

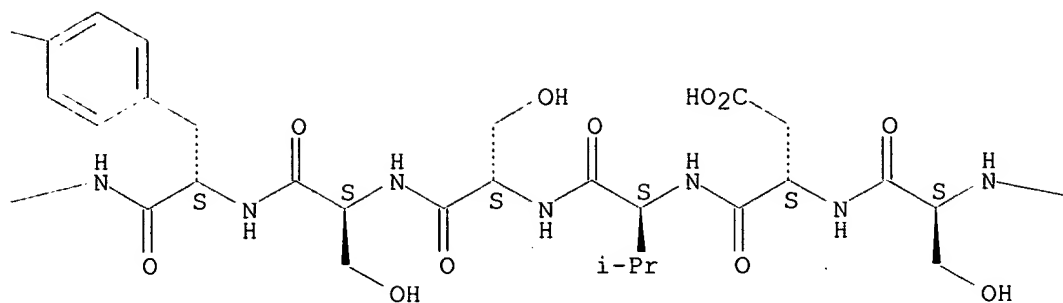
PAGE 1-A



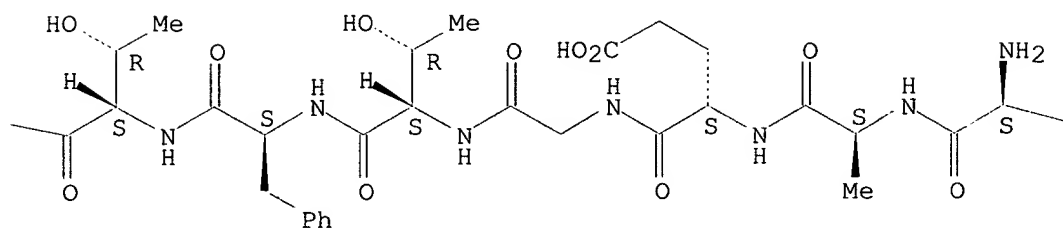
PAGE 1-B



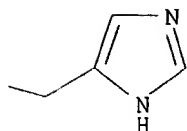
PAGE 1-C



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PAGE 1-E



IT 123475-28-5, Glucagon-like peptide I(7-35)

RL: BIOL (Biological study)

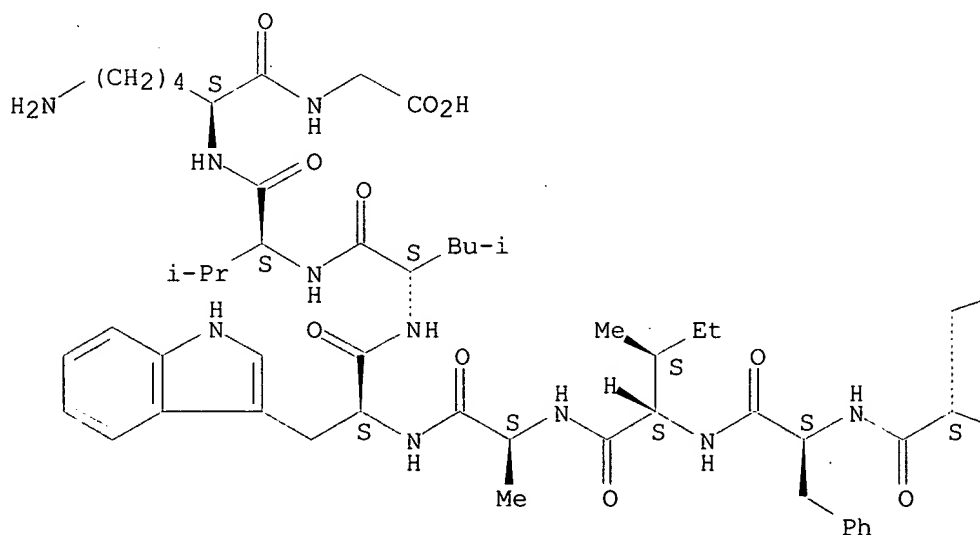
(cAMP formation response to)

RN 123475-28-5 HCAPLUS

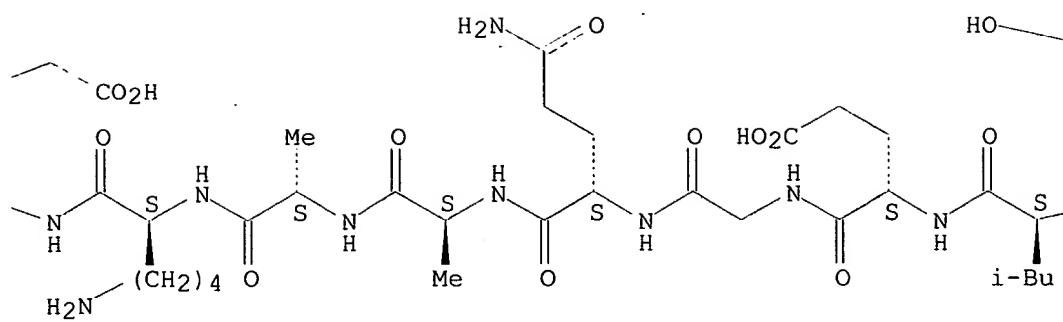
CN Glycine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutaminy-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl-L-lysyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

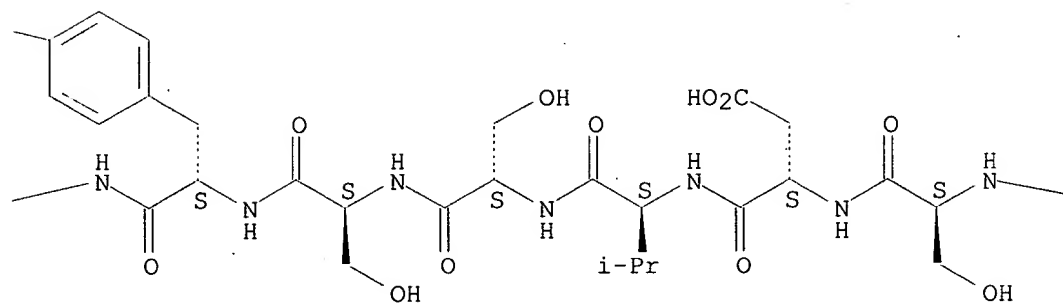
PAGE 1-A



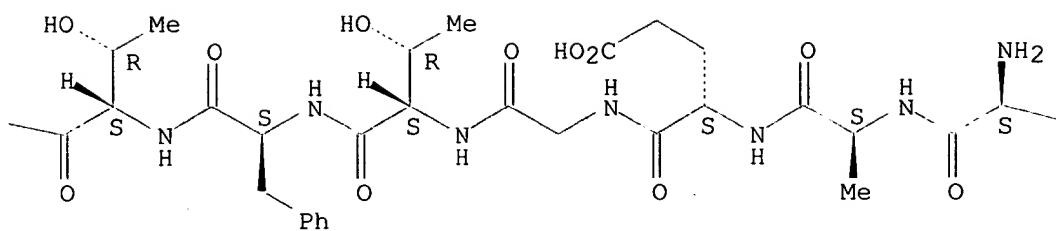
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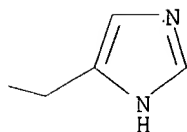
PAGE 1-C



PAGE 1-D



PAGE 1-E

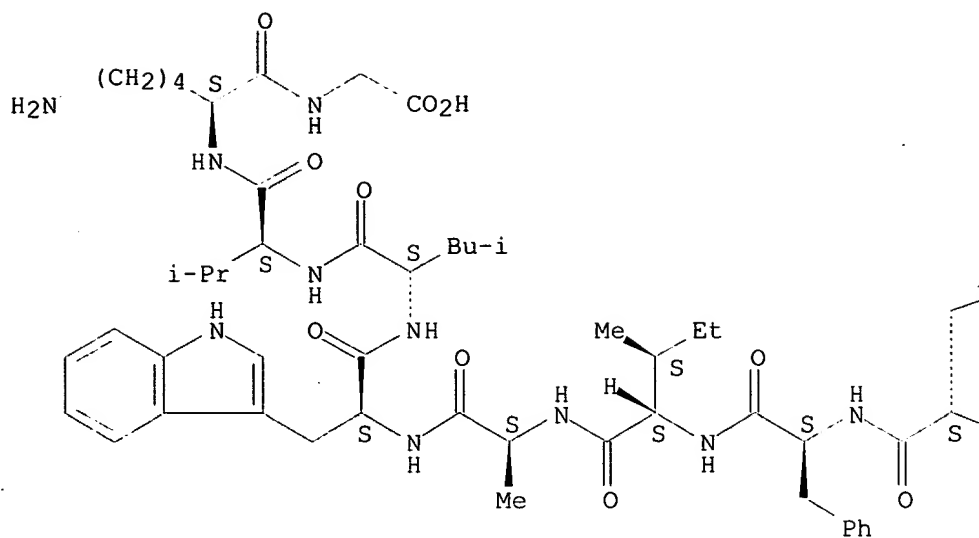


L59 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:91914 HCAPLUS
DN 112:91914
ED Entered STN: 18 Mar 1990
TI Comparison of the effects of various C-terminal and N-terminal fragment
peptides of **glucagon**-like peptide-1 on insulin and
glucagon release from the isolated perfused rat pancreas
AU Suzuki, Seiji; Kawai, Koichi; Ohashi, Shinichi; Mukai, Hidehito;
Yamashita, Kamejiro
CS Inst. Clin. Med., Univ. Tsukuba, Tsukuba, 305, Japan
SO Endocrinology (1989), 125(6), 3109-14
CODEN: ENDOAO; ISSN: 0013-7227
DT Journal
LA English
CC 2-2 (Mammalian Hormones)

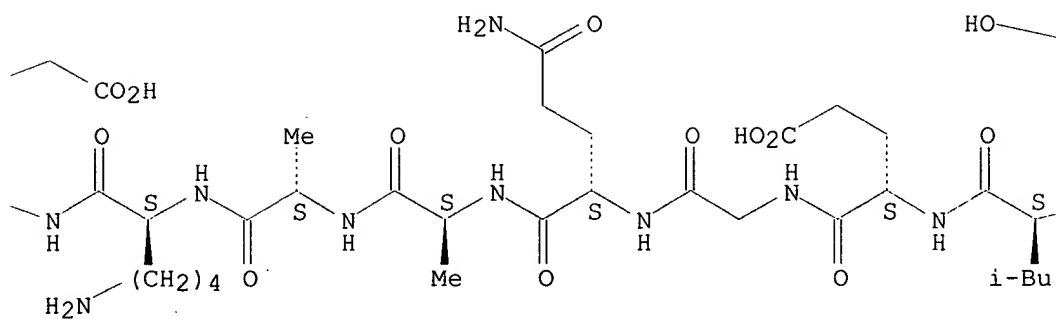
- AB Truncated **glucagon**-like peptide-1 (GLP-1) possesses a potent stimulatory activity for insulin secretion and a slight inhibiting activity for **glucagon** secretion. The activities of N- and C-terminal fragments of GLP-1 were examined using a rat pancreas perfusion system. Concerning the N-terminal portion, GLP-1(7-37) amide elicited a clear insulinotropic activity at 0.1 or 1 nM with the perfusate containing 5.5 mM glucose and 5 mM arginine, while 10 nM GLP-1-(1-37) amide, -(6-37) amide, and -(8-37) amide did not. Concerning the C-terminal portion, GLP-1-(7-37) amide, -(7-37), and -(7-36) amide had a similar potency of insulinotropic activity, and GLP-1-(7-35) was less potent; 0.1 nM GLP-1-(7-35) did not stimulate insulin release, nor did 10 nM GLP-1-(7-20). **Glucagon** release was suppressed by 1 and 10 nM GLP-1-(7-37) amide, 10 nM GLP-1-(7-37), and 1 nM GLP-1-(7-36) amide. Other fragment peptides of GLP-1, including GLP-1-(7-35), had no effect. Apparently, histidine at position 7 of GLP-1 as a free N-terminal amino acid is very important in GLP-1's insulinotropic activity and probably in **glucagon**-inhibiting activity, and C-terminal amidation and the 3 C-terminal amino acids are less important for these activities.
- ST glucagonlike peptide 1 insulin release structure; **glucagon** release glucagonlike peptide 1 structure; insulin **glucagon** glucagonlike peptide 1 fragment; structure activity **glucagon** like peptide 1
- IT Molecular structure-biological activity relationship
(**glucagon**-releasing, of **glucagon**-like peptide-1 C- and N-terminal fragments)
- IT Molecular structure-biological activity relationship
(insulin-releasing, of **glucagon**-like peptide-1 C- and N-terminal fragments)
- IT 89750-14-1D, **Glucagon**-related peptide I, fragments
RL: BIOL (Biological study)
(C- and N-terminal, **glucagon** and insulin release response to, structure in relation to)
- IT 87805-34-3, **Glucagon**-related peptide I (ox) 107444-51-9
116964-93-3, **Glucagon**-like peptide-1 (7-37) 119637-73-9
123475-28-5 123496-86-6 123496-87-7 125316-61-2
RL: BIOL (Biological study)
(**glucagon** and insulin release response to, structure in relation to)
- IT 9004-10-8, Insulin, biological studies 9007-92-5, **Glucagon**, biological studies
RL: BIOL (Biological study)
(release of, **glucagon**-like peptide-1 C- and N-terminal fragments effect on, structure in relation to)
- IT 89750-14-1D, **Glucagon**-related peptide I, fragments
RL: BIOL (Biological study)
(C- and N-terminal, **glucagon** and insulin release response to, structure in relation to)
- RN 89750-14-1 HCAPLUS
- CN **Glucagon**-like peptide I (9CI) (CA INDEX NAME)
- *** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
- IT 123475-28-5
RL: BIOL (Biological study)
(**glucagon** and insulin release response to, structure in relation to)
- RN 123475-28-5 HCAPLUS
- CN Glycine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutaminy-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl-L-lysyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

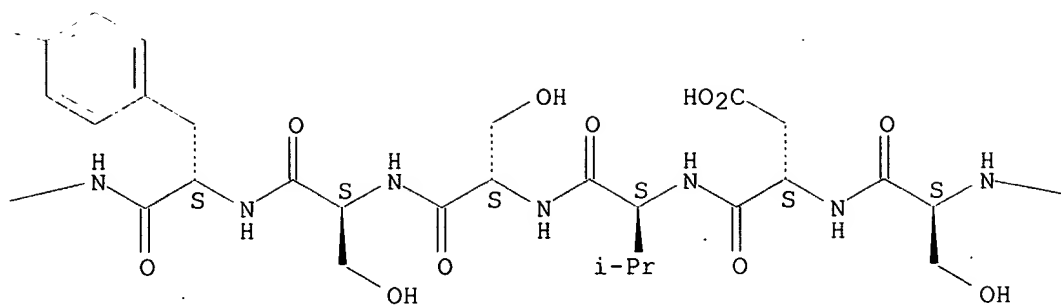
PAGE 1-A



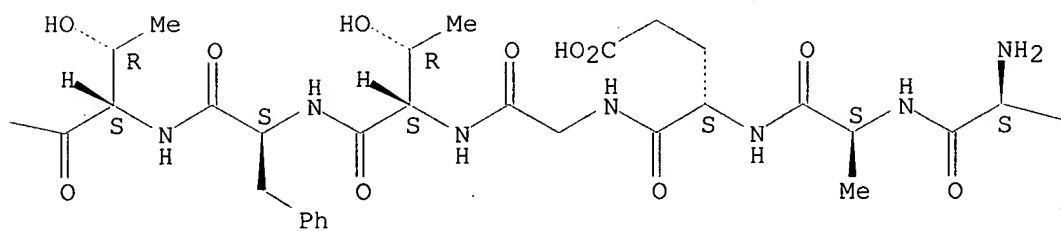
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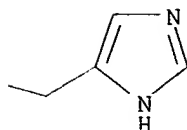
PAGE 1-C



PAGE 1-D



PAGE 1-E



L59 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1989:614921 HCAPLUS
DN 111:214921
ED Entered STN: 09 Dec 1989
TI Synthesis of GLP-1 related peptides and production of GLP-1 specific antisera
AU Suzuki, Matsuaki; Ishikawa, Junji; Inoue, Takashi; Zhang, Tao; Mochizuki, Tohru; Kuwahara, Atsukara; Yonezu, Emiko; Hoshino, Minoru; Yanaihara, Chizuko; Yanaihara, Noboru
CS Natl. Inst. Physiol. Sci., Okazaki, Japan
SO Peptide Chemistry (1989), Volume Date 1988, 26th, 73-8
CODEN: PECHDP; ISSN: 0388-3698
DT Journal
LA English
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 2, 15
AB A report from a symposium. Nine GLP-1 (GLP = **glucagon**-like peptide) related peptides, e.g. GLP-1(1-37) and GLP-1(9-22), were prepared. The production of GLP-1 specific antisera is described.
ST **glucagon** like peptide prepn symposium; immunochem
glucagon like peptide symposium
IT Antiserums
(of **glucagon**-like peptide-1 related peptides)
IT 89750-14-1, **Glucagon**-related peptide I
RL: RCT (Reactant); RACT (Reactant or reagent)
(peptides related to, preparation and immunochem. of)
IT 87805-34-3P, **Glucagon**-related peptide I (ox) 106612-94-6P
121181-17-7P 123475-27-4P **123475-28-5P** 123475-29-6P
123475-30-9P 123475-31-0P 123512-62-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and immunochem. of)
IT 89750-14-1, **Glucagon**-related peptide I
RL: RCT (Reactant); RACT (Reactant or reagent)
(peptides related to, preparation and immunochem. of)
RN 89750-14-1 HCAPLUS
CN **Glucagon**-like peptide I (9CI) (CA INDEX NAME)

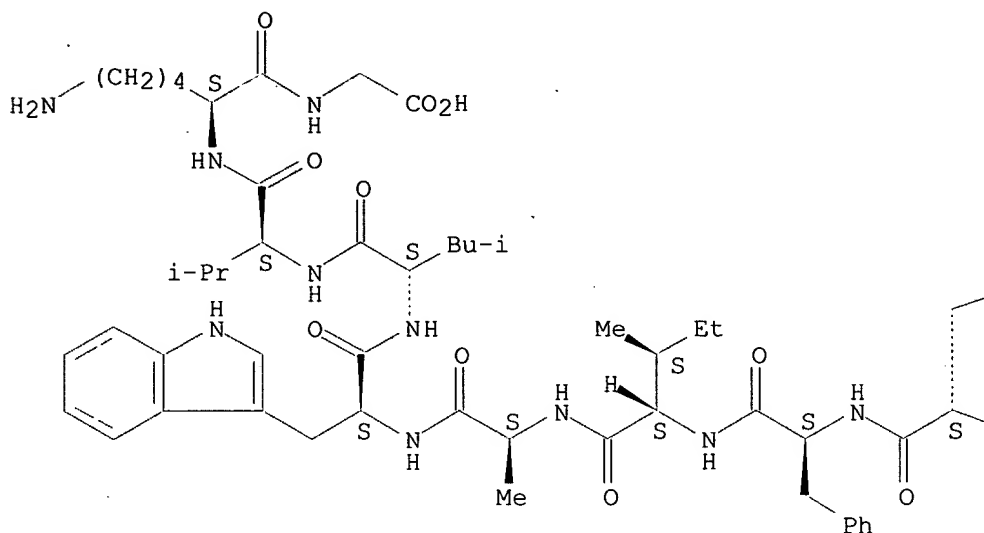
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
IT **123475-28-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and immunochem. of)

RN 123475-28-5 HCAPLUS

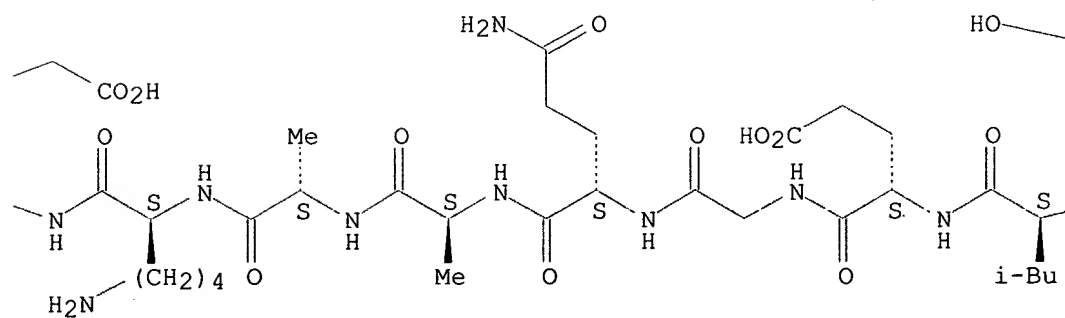
CN Glycine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutamyl-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl-L-lysyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

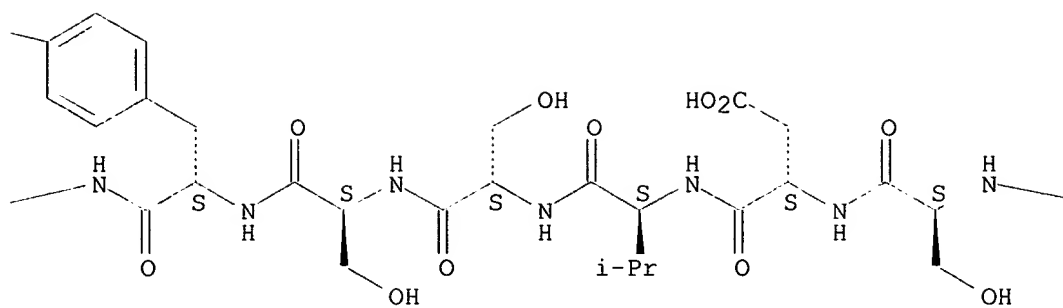
PAGE 1-A



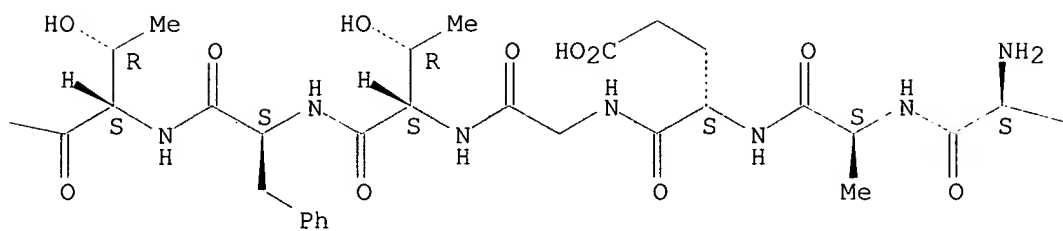
PAGE 1-B



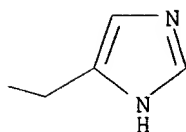
PAGE 1-C



PAGE 1-D



PAGE 1-E



L59 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1989:587711 HCAPLUS
DN 111:187711
ED Entered STN: 25 Nov 1989
TI **Glucagon**-like peptide-1: synthetic approach
AU Yanaihara, Chizuko; Suzuki, Mutsuaki; Ishikawa, Junji; Kurokawa, Nobuo;
Yanaihara, Noboru
CS Med. Sch., Osaka Univ., Osaka, 553, Japan
SO Biomedical Research (1988), 9(Suppl. 3), 225-8
CODEN: BRES D5; ISSN: 0388-6107
DT Journal
LA English
CC 2-2 (Mammalian Hormones)
Section cross-reference(s): 34
AB **Glucagon**-like peptide-1 (GLP-1)-related peptides shortened in
amino and (or) carboxyl-terminal portions of GLP-1(1-37) were synthesized
and their insulinotropic potencies were assessed by the stimulating effect
on 13.9 mM glucose-induced insulin release from isolated perfused rat
pancreas. The synthetic peptides include: GLP-1(1-37), (1-36), (1-35),
(7-37), (7-36), (7-35), (7-22), and (9-22). At 10⁻⁸M concentration, synthetic
GLP-1(7-35) was the most potent of the 8 peptides examined and exhibited an
insulin release-enhancing effect >3-fold stronger than that of 10⁻⁸M
glucagon. Thus, GLP-1(7-35) can not be excluded from the
candidate forms for endogenous GLP-1 related peptide(s).
ST **glucagon** like peptide fragment insulin; structure activity
glucagon like peptide
IT Peptides, preparation
RL: PREP (Preparation)
(**glucagon**-like)
IT Molecular structure-biological activity relationship
(insulin-releasing, of **glucagon**-like peptide-1 and fragments)
IT 50-99-7, D-Glucose, biological studies
RL: BIOL (Biological study)
(insulin secretion stimulation by, **glucagon**-like peptide-1
and fragments effect on)
IT 87805-34-3P, **Glucagon**-related peptide I (ox)
89750-14-1DP, **Glucagon**-related peptide I, fragments
106612-94-6P 121181-17-7P 123475-27-4P **123475-28-5P**
123475-30-9P 123475-31-0P 123512-62-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and insulin release enhancing activity of, mol. structure in

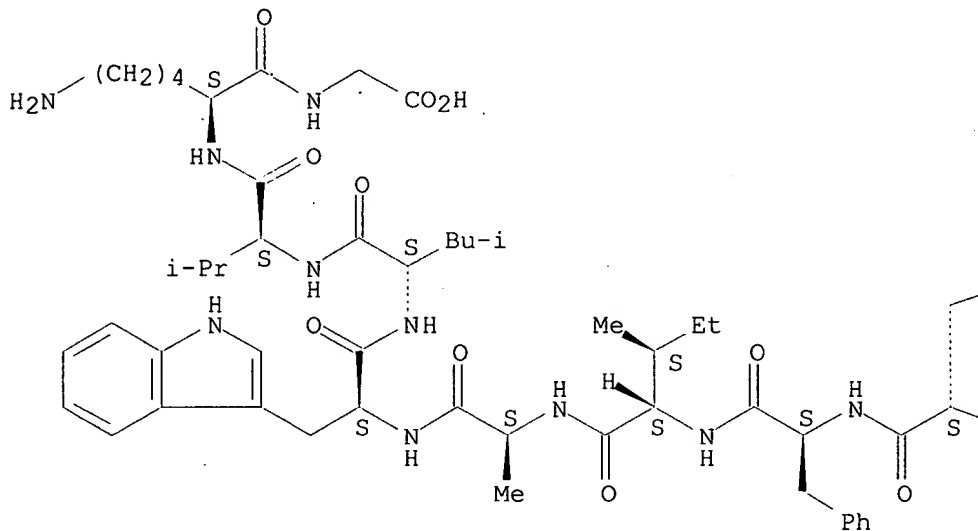
relation to)
 IT 9004-10-8, Insulin, biological studies
 RL: BIOL (Biological study)
 (secretion of, **glucagon**-like peptide-1 and fragments effect
 on)
 IT 89750-14-1DP, Glucagon-related peptide I, fragments
 123475-28-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and insulin release enhancing activity of, mol. structure in
 relation to)
 RN 89750-14-1 HCAPLUS
 CN Glucagon-like peptide I (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

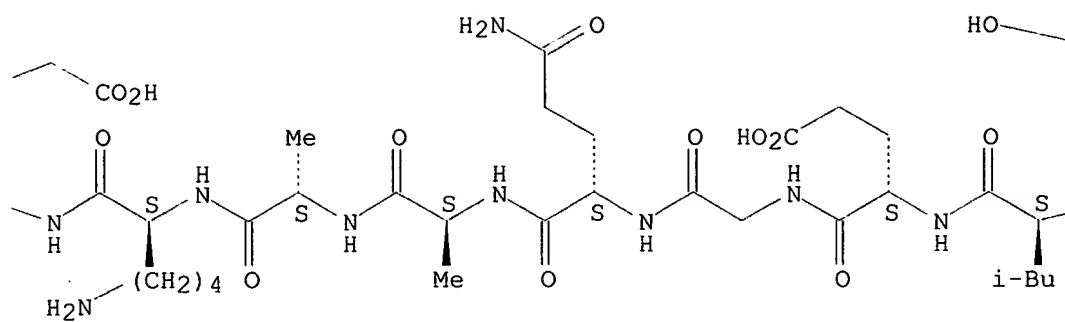
RN 123475-28-5 HCAPLUS
 CN Glycine, L-histidyl-L-alanyl-L- α -glutamylglycyl-L-threonyl-L-phenylalanyl-L-threonyl-L-seryl-L- α -aspartyl-L-valyl-L-seryl-L-seryl-L-tyrosyl-L-leucyl-L- α -glutamylglycyl-L-glutamyl-L-alanyl-L-alanyl-L-lysyl-L- α -glutamyl-L-phenylalanyl-L-isoleucyl-L-alanyl-L-tryptophyl-L-leucyl-L-valyl-L-lysyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

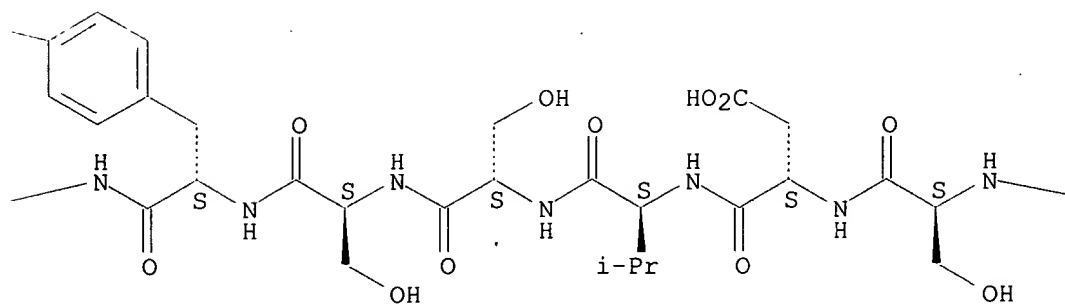
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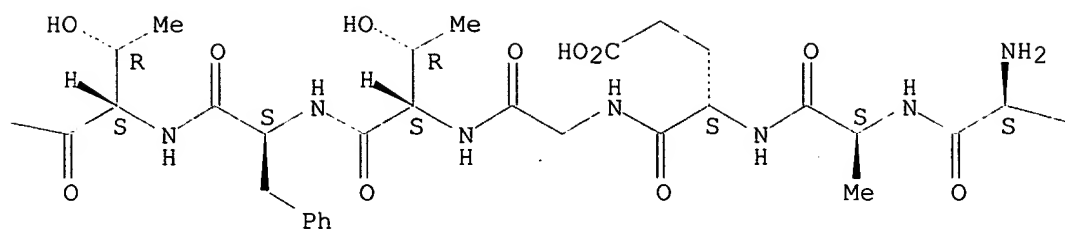
PAGE 1-B



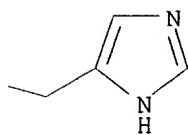
PAGE 1-C



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PAGE 1-E

 \Rightarrow

! FINDPATTERNS on pir:* allowing 0 mismatches

```
1 1 H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIWLKVRG Ja
      GCHU ck: 9748 len: 180 1 glucagon precursor [validated] - human
1 H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIWLKVRG
  H(A)EGTFTSDVSSYL(E)GOAAK(E)FIWLKVRG
98: DEPER H A E G T F T S D V S S Y L E G Q A A K E F I A W L K V R G R R D F P

1 GCGP ck: 629 len: 180 1 glucagon precursor - guinea pig
  H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIWLKVRG
  H(A)EGTFTSDVSSYL(E)GOAAK(E)FIWLKVRG
98: DEPER H A E G T F T S D V S S Y L E G Q A A K E F I A W L K V R G R R D F P

1 GCRTDU ck: 736 len: 180 1 glucagon precursor - degu
  H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIWLKVRG
  H(A)EGTFTSDVSSYL(E)GOAAK(E)FIWLKVRG
98: DEPER H A E G T F T S D V S S Y L E G Q A A K E F I A W L K V R G R R D F P

1 GCRT ck: 9106 len: 180 1 glucagon precursor - rat
  H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIWLKVRG
  H(A)EGTFTSDVSSYL(E)GOAAK(E)FIWLKVRG
98: DEPER H A E G T F T S D V S S Y L E G Q A A K E F I A W L K V R G R R D F P

1 GCHY ck: 206 len: 180 1 glucagon precursor - golden hamster
  H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIWLKVRG
  H(A)EGTFTSDVSSYL(E)GOAAK(E)FIWLKVRG
98: DEPER H A E G T F T S D V S S Y L E G Q A A K E F I A W L K V R G R R D F P

1 GCBO ck: 2258 len: 180 1 glucagon precursor - bovine
  H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIWLKVRG
  H(A)EGTFTSDVSSYL(E)GOAAK(E)FIWLKVRG
98: DEPER H A E G T F T S D V S S Y L E G Q A A K E F I A W L K V R G R R D F P

1 QCFG ck: 106 len: 158 1 glucagon precursor - pig (fragment)
  H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIWLKVRG
  H(A)EGTFTSDVSSYL(E)GOAAK(E)FIWLKVRG
78: XXXXX H A E G T F T S D V S S Y L E G Q A A K E F I A W L K V R G X X D F P

1 A57294 ck: 8386 len: 180 1 glucagon precursor - mouse
  H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIWLKVRG
  H(A)EGTFTSDVSSYL(E)GOAAK(E)FIWLKVRG
98: DEPER H A E G T F T S D V S S Y L E G Q A A K E F I A W L K V R G R R D F P
```

Databases searched:
NBRF, Release 76.1, Released on 12May2003, Formatted on 10Jun2003

Total finds: 8
Total length: 96,168,682
Total sequences: 283,308
CPU time: 02:23.50

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!!SEQUENCE LIST 1.0
! FINDPATTERNS on pir:* allowing 0 mismatches
!      1 H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)PIAWLVKGRG      Ja
PIR1:GCHU      ck: 9748 len: 180 finds: 1      ! glucagon precursor (validated)
PIR1:GCGP      ck: 629 len: 180 finds: 1      ! glucagon precursor - guinea pi
PIR1:GCRTDU     ck: 736 len: 180 finds: 1      ! glucagon precursor - degu
PIR1:GCRT      ck: 9106 len: 180 finds: 1      ! glucagon precursor - rat
PIR1:GCHY      ck: 206 len: 180 finds: 1      ! glucagon precursor - golden ha
PIR1:GCBO      ck: 2258 len: 180 finds: 1      ! glucagon precursor - bovine
PIR1:GCPG      ck: 106 len: 158 finds: 1      ! glucagon precursor - pig (frag
PIR2:A57294     ck: 8386 len: 180 finds: 1      ! glucagon precursor - mouse
\\End of list

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Databases searched:
 NBRF, Release 76.1, Released on 12May2003, Formatted on 10Jun2003

Total finds: 8
 Total length: 96,168,682
 Total sequences: 283,308
 CPU time: 03:06.52

!!IAA_SEQUENCE 1.0
P1:GCHU - glucagon precursor [validated] - human
N:Contains: glidentin; glidentin-related polypeptide (GRPP); glucagon;
glucagon-like peptide 1 (GLP1); glucagon-like peptide 2 (GLP2); major
proglucagon fragment; oxyntomodulin; truncated glucagon-like peptide 1 (tGLP1)
C:Species: Homo sapiens (man)
C>Date: 24-Apr-1984 #sequence revision 31-Mar-1993 #text_change 08-Dec-2000
C:Accession: A24377; A44197; A30875; A32614; A01541; S23309
R:White, J.W.; Saunders, G.F.
Nucleic Acids Res. 14, 4719-4730, 1986
A:Title: Structure of the human glucagon gene.
A:Reference number: A24377; MUID:86259053; PMID:3725587
A:Accession: A24377
A:Molecule type: DNA
A:Residues: 1-180 <WHI>
A:Cross-references: GB:X03991
R:Bell, G.I.; Sanchez-Pescador, R.; Laybourn, P.J.; Najarian, R.C.
Nature 304, 368-371, 1983
A:Title: Exon duplication and divergence in the human preproglucagon gene.
A:Reference number: A44197; MUID:83271477; PMID:6877358
A:Accession: A44197
A:Molecule type: DNA
A:Residues: 1-179 <BE>
A:Cross-references: GB:V01515; NID:g31777; PIDN:CAA24759.1; PID:g31778
R:Drucker, D.J.; Asa, S.
J. Biol. Chem. 263, 13475-13478, 1988
A:Title: Glucagon gene expression in vertebrate brain.
A:Reference number: A30875; MUID:86330860; PMID:2901414
A:Accession: A30875
A:Molecule type: mRNA
A:Residues: 1-180 <DRU>
A:Cross-references: GB:J04040; NID:g183269; PIDN:AAA52567.1; PID:g183270
R:Orskov, C.; Bersani, M.; Johnsen, A.H.; Holrup, P.; Holst, J.J.
J. Biol. Chem. 264, 18266-18269, 1989
A:Title: Complete sequences of glucagon-like peptide-1 from human and pig small
intestine.
A:Reference number: A32732; MUID:89327238; PMID:2753890
A:Accession: A32614
A:Molecule type: protein
A:Residues: 98-127 <ORS>
R:Thomsen, J.; Kristiansen, K.; Brunfeldt, K.; Sundby, F.
FEBS Lett. 21, 315-319, 1972
A:Title: The amino acid sequence of human glucagon.
A:Reference number: A31373
A:Accession: A01541
A:Molecule type: protein
A:Residues: 53-81 <THO>
R:Teugita, A.; Takamoto, K.; Kamo, M.; Iwade, H.
Eur. J. Biochem. 206, 691-696, 1992
A:Title: C-terminal sequencing of protein. A novel partial acid hydrolysis and
analysis by mass spectrometry.
A:Reference number: S23188; MUID:92298996; PMID:1606956
A:Accession: S23309
A:Molecule type: protein
A:Residues: 53-81 <TSU>
C:Comment: In pancreatic alpha-cells, proglucagon is processed to
glidentin-related polypeptide, glucagon, and major proglucagon fragment that is
further processed to glucagon-like peptide 1. In intestinal L cells,
proglucagon is processed to truncated glucagon-like peptide 1, glucagon-like
peptide 2, and glidentin that is partially further processed to
glidentin-related polypeptide and oxyntomodulin.
C:Genetics:
A:Gene: GDB:GCG
A:Cross-references: GDB:119265; OMIM:138030
A:Map position: 2q36-q37
A:Introns: 31/2; 85/2; 131/2; 179/2
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication;
hormone; intestine; pancreas
F1:20/Domain: signal sequence #status predicted <SIG>
F1:21-180/Product: proglucagon #status experimental <PGC>
F1:21-89/Product: glidentin #status experimental <GLN>
F1:21-50/Product: glidentin-related polypeptide #status predicted <GRPP>

F1:53-89/Product: oxyntomodulin #status experimental <OKN>
F1:53-81/Product: glucagon #status experimental <GCN>
F1:92-178/Product: major proglucagon fragment #status experimental <MPGF>
F1:92-127/Product: glucagon-like peptide 1 #status experimental <GL1>
F1:98-127/Product: truncated glucagon-like peptide 1 #status experimental <TGL>
F1:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>
F1:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from
following glycine) #status experimental
GCHU Length: 180 January 22, 2004 17:52 Type: P Check: 19718
1 MKSYFVAGL FVMLVQSQW RSLQDTREKS RSFSASQADP LSDPDQDNES
51 KRHSQGTFTS DYSKYLDSTR AODFVQWLNN TKRNENNIAT RHDFPFRHAE
101 GTFTSDVSSY LEGQAQKEFI AMLVKGRGR DPPEVAIVE ELGRRHADGS
151 FSDENWTILD NLAARDPINW LIQTKITDRK
!!IAA_SEQUENCE 1.0
P1:GCGP - glucagon precursor - guinea pig
N:Alternate names: oxyntomodulin
N:Contains: glidentin-related peptide; glucagon; glucagon-37 (oxyntomodulin);
glucagon-like peptide 1; glucagon-like peptide 2
C:Species: Cavia porcellus (guinea pig)
C>Date: 30-Sep-1987 #sequence revision 31-Dec-1992 #text_change 16-Jun-2000
C:Accession: A24856; A23849; A60323
R:Seino, S.; Welsh, M.P.; Bell, G.I.; Chan, S.J.; Steiner, D.F.
FEBS Lett. 203, 25-30, 1986
A:Title: Mutations in the guinea pig preproglucagon gene are restricted to a
specific portion of the prohormone sequence.
A:Reference number: A24856; MUID:86248118; PMID:3755107
A:Accession: A24856
A:Molecule type: mRNA
A:Residues: 1-180 <SEI>
A:Cross-references: DDBJ:D00014; GB:N00014; NID:g220288; PIDN:BAA00010.1;
PID:g220289
R:Huang, C.G.; Eng, J.; Pan, Y.C.E.; Hulmes, J.D.; Yalow, R.S.
Diabetes 35, 508-512, 1986
A:Title: Guinea pig glucagon differs from other mammalian glucagons.
A:Reference number: A23849; MUID:86165412; PMID:3956884
A:Accession: A23849
A:Molecule type: protein
A:Residues: 53-81 <HUA>
R:Conlon, J.M.; Hansen, H.F.; Schwartz, T.W.
Regul. Pept. 11, 309-320, 1985
A:Title: Primary structure of glucagon and a partial sequence of oxyntomodulin
(glucagon-37) from the guinea pig.
A:Reference number: A60323; MUID:86017849; PMID:4048553
A:Accession: A60323
A:Molecule type: protein
A:Residues: 53-81 <CON>
A:Note: glucagon-37 was not completely sequenced
C:Superfamily: glucagon
C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication;
hormone; pancreas
F1:20/Domain: signal sequence #status predicted <SIG>
F1:21-180/Product: proglucagon #status predicted <PGC>
F1:21-50/Region: glidentin-related peptide #status predicted
F1:53-89/Product: glucagon-37 (oxyntomodulin) #status predicted <G37>
F1:53-81/Product: glucagon #status experimental <GCN>
F1:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>
F1:146-178/Product: glucagon-like peptide 2 #status predicted <GL2>
F1:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from
following glycine) #status predicted
GCGP Length: 180 January 22, 2004 17:52 Type: P Check: 629
1 MKSYFVAGL FVMLVQSQW RSLQDTREKP RSVSASQTM LDDPDQDNED
51 KRHSQGTFTS DYSKYLDSTR AQOFLKWLNN TKRNENNIAT RHDFPFRHAE
101 GTFTSDVSSY LEGQAQKEFI AMLVKGRGR DPPEVAIVE ELGRRHADGS

151 FSDENMTILD NLATRDFFINW LIQTKITDRK

IIAA_SEQUENCE 1.0
 P1/GCRTDU - glucagon precursor - degu
 N:Contains: glucagon-related peptide; glucagon; glucagon-like peptide 1;
 glucagon-like peptide 2
 C:Species: Octodon degus (degu)
 C:Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 18-Jun-1999
 C:Accession: C36118
 R:Nishi, M.; Steiner, D.F.
 Mol. Endocrinol. 4, 1192-1198, 1990
 A:Title: Cloning of complementary DNAs encoding islet amyloid polypeptide,
 insulin, and glucagon precursors from a New World rodent, the degu,
 Octodon degus.
 A:Reference number: A36118; MUID:91155952; PMID:2293024
 A:Accession: C36118
 A:Molecule type: mRNA
 A:Residues: 1-180 <NIS>
 A:Cross-references: GB:IM5768; NID:G202467; PIDN:AAA40588.1; PID:G202468
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication;
 hormone; pancreas
 F:1-20/Domain: signal sequence #status predicted <SIG>
 F:21-180/Product: proglucagon #status predicted <PGC>
 F:21-50/Region: glucagon-related peptide #status predicted
 F:53-81/Product: glucagon #status predicted <GCN>
 F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>
 F:146-176/Product: glucagon-like peptide 2 #status predicted <GL2>
 F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from
 following glycine) #status predicted

GCRTDU Length: 180 January 22, 2004 17:52 Type: P Check: 736 ..

- 1 MKSIYFVAGL FVMLVQGSQ HPLQDTEKP RSFSTQTDL LDDPQMNED
 51 KRHSQGTFTS DYSKFLDTRR AODFLDMLN TKRNNEIAK RHDEPERHAE
 101 GTFTSDVSSY LEGQAAKEFI AMLVKGRGR DPPEEVTIVE ELRRRHADGS
 151 FSDENMTILD HLATKDFINW LIQTKITDRK

IIAA_SEQUENCE 1.0
 P1/GCRT - glucagon precursor - rat
 N:Contains: glucagon-related peptide; glucagon; glucagon-like peptide 1;
 glucagon-like peptide 2
 C:Species: Rattus norvegicus (Norway rat)
 C:Date: 30-Sep-1987 #sequence_revision 30-Sep-1987 #text_change 26-Feb-1999
 C:Accession: A22655; A25190; A44198
 R:Heinrich, G.; Gros, P.; Habener, J.F.
 J. Biol. Chem. 259, 14082-14087, 1984
 A:Title: Glucagon gene sequence: four of six exons encode separate functional
 domains of rat pre-proglucagon.
 A:Reference number: A22655; MUID:85054853; PMID:6094539
 A:Accession: A22655
 A:Molecule type: DNA
 A:Residues: 1-180 <HEI>
 A:Cross-references: EMBL:K02809
 A:Note: the authors translated the codon TTG for residue 10 as Glu and ACC for
 residue 59 as Pro
 R:Mojsov, S.; Heinrich, G.; Wilson, I.B.; Ravazzola, M.; Orci, L.; Habener, J.F.
 J. Biol. Chem. 261, 11880-11889, 1986
 A:Title: Preproglucagon gene expression in pancreas and intestine diversifies
 at the level of post-translational processing.
 A:Reference number: A25190; MUID:86304324; PMID:3528148
 A:Accession: A25190
 A:Status: not compared with conceptual translation
 A:Molecule type: mRNA
 A:Residues: 1-180 <MOJ>
 R:Heinrich, G.; Gros, P.; Lund, P.K.; Bentley, R.C.; Habener, J.F.
 Endocrinology 115, 2176-2181, 1984
 A:Title: Pre-proglucagon messenger ribonucleic acid: nucleotide and encoded
 amino acid sequences of the rat pancreatic complementary deoxyribonucleic acid.

A:Reference number: A44198; MUID:85051023; PMID:6548696

A:Accession: A44198
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-180 <HE2>
 A:Cross-references: GB:K02809; GB:K02810; GB:K02811; GB:K02812
 C:Genetics:
 C:Introns: 31/2; 85/2; 131/2; 179/2
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication;
 hormone; pancreas
 F:1-20/Domain: signal sequence #status predicted <SIG>
 F:21-180/Product: proglucagon #status predicted <PGC>
 F:21-50/Region: glucagon-related peptide #status predicted
 F:53-81/Product: glucagon #status predicted <GCN>
 F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>
 F:146-180/Product: glucagon-like peptide 2 #status predicted <GL2>
 F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from
 following glycine) #status predicted

GCRT Length: 180 January 22, 2004 17:52 Type: P Check: 9106 ..

- 1 MKTVIVAGL FVMLVQGSQ HAPQDTERNA RSFPASQTEP LEDPDQINED
 51 KRHSQGTFTS DYSKYLDSRR AODFVQMLN TKRNENNIAR RHDSFERHAE
 101 GTFTSDVSSY LEGQAAKEFI AMLVKGRGR DPPEEVTIVE ELGRRHADGS
 151 FSDENMTILD NLATRDFFINW LIQTKITDRK

IIAA_SEQUENCE 1.0

P1/GCHY - glucagon precursor - golden hamster
 N:Contains: glucagon-related peptide; glucagon; glucagon-like peptide 1;
 glucagon-like peptide 2
 C:Species: Mesocricetus auratus (golden hamster)
 C:Date: 13-Jun-1983 #sequence_revision 13-Jun-1983 #text_change 20-Mar-1998
 C:Accession: A01539
 R:Bell, G.I.; Sauter, R.F.; Mullenbach, G.T.
 Nature 302, 716-718, 1983
 A:Title: Hamster preproglucagon contains the sequence of glucagon and two
 related peptides.
 A:Reference number: A01539; MUID:83167563; PMID:6835407
 A:Accession: A01539
 A:Molecule type: mRNA
 A:Residues: 1-180 <BEL>
 A:Cross-references: EMBL:J00059
 C:Superfamily: glucagon
 C:Keywords: amidated carboxyl end; carbohydrate metabolism; duplication;
 hormone; pancreas
 F:1-20/Domain: signal sequence #status predicted <SIG>
 F:21-180/Product: proglucagon #status predicted <PGC>
 F:21-50/Region: glucagon-related peptide #status predicted
 F:53-81/Product: glucagon #status predicted <GCN>
 F:98-127/Product: glucagon-like peptide 1 #status predicted <GL1>
 F:146-180/Product: glucagon-like peptide 2 #status predicted <GL2>
 F:127/Modified site: amidated carboxyl end (Arg) (amide in mature form from
 following glycine) #status predicted

GCHY Length: 180 January 22, 2004 17:52 Type: P Check: 406 ..

- 1 MKTVIVAGL FCGAGQGSQ HSLQDTEKS RSFPASQTEP LEDPDQINED
 51 KRHSQGTFTS DYSKYLDSRR AODFVQMLN TKRNENNIAR RHDEPERHAE
 101 GTFTSDVSSY LEGQAAKEFI AMLVKGRGR DPPEEVTIVE ELGRRHADGS
 151 FSDENMTILD SLATRDFFINW LIQTKITDRK

IIAA_SEQUENCE 1.0

P1/GCBO - glucagon precursor - bovine
 N:Contains: glucagon-related peptide; glucagon; glucagon-like peptide 1;
 glucagon-like peptide 2
 C:Species: Bos primigenius taurus (cattle)

C;Date: 14-Nov-1983 #sequence_revision 14-Nov-1983 #text_change 20-Mar-1998
 C;Accession: A93970; A92081; A01538
 R;Lopez, L.C.; Frazier, M.L.; Su, C.J.; Kumar, A.; Saunders, G.F.
 Proc. Natl. Acad. Sci. U.S.A. 80, 5485-5489, 1983
 A;Title: Mammalian pancreatic preproglucagon contains three glucagon-related peptides.
 A;Reference number: A93970; MUID:83299996; PMID:6577439
 A;Accession: A93970
 A;Molecule type: mRNA
 A;Residues: 1-180 <LOP>
 A;Cross-references: EMBL:K00107
 R;Bromer, W.W.; Boucher, M.E.; Koffenberger Jr., J.E.
 J. Biol. Chem. 246, 2822-2827, 1971
 A;Title: Amino acid sequence of bovine glucagon.
 A;Reference number: A92081; MUID:71166445; PMID:5102927
 A;Accession: A92081
 A;Molecule type: protein
 A;Residues: 53-81 <BRO>
 C;Superfamily: glucagon
 C;Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancreas
 F;1-20/Domain: signal sequence #status predicted <SIG>
 F;21-180/Product: proglucagon #status predicted <PG>
 F;21-50/Region: glucicentin-related peptide #status predicted
 F;53-81/Product: glucagon #status experimental <GCN>
 F;98-127/Product: glucagon-like peptide 1 #status experimental <GL1>
 F;146-178/Product: glucagon-like peptide 2 #status predicted <GL2>
 F;127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following glycine) #status predicted

GCBO Length: 180 January 22, 2004 17:52 Type: P Check: 2258 ..

1 MKSLYFVAGL FVLMVQSWQ RSLQNTTEKS RSFPAPQTDLP LGDPPQINED

51 KRHSQGTFTS DYSKYLDSSR AQDFVQWLMN TKRNKNIAK RHDEFERHAE

101 GTFTSDVSSY LEGQAQKEFI AMLVKGRGRR DPPEEVNIVE ELRRRHADGS

151 FSDENNVYLD SLATRDPIFNW LIQTKITDRK

IIAA SEQUENCE 1.0
 F1;GCPG - glucagon precursor - pig (fragment)
 N;Alternate names: glucicentin; oxyntomodulin
 N;Contains: glucicentin-related peptide; glucagon; glucagon-37 (oxyntomodulin); glucagon-69 (glucicentin); glucagon-like peptide 1; glucagon-like peptide 2
 C;Species: Sus scrofa domestica (domestic pig)
 C;Date: 17-Dec-1982 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998
 C;Accession: A01540; A60312; A91781; B32614; A28064
 R;Thim, L.; Moody, A.J.
 Regul. Pept. 2, 139-150, 1981
 A;Title: The primary structure of porcine glucicentin (proglucagon).
 A;Reference number: A94233; MUID:81248172; PMID:6894800
 A;Accession: A01540
 A;Molecule type: protein
 A;Residues: 1-69 <TH1>
 R;Thim, L.; Moody, A.J.
 Regul. Pept. Suppl. 2, S33, 1993
 A;Title: Primary structure of a possible porcine proglucagon fragment.
 A;Reference number: A60312
 A;Accession: A60312
 A;Molecule type: protein
 A;Residues: 1-30 <TH2>
 A;Note: This peptide is co-secreted with glucagon from the pancreas
 R;Bromer, W.W.; Sinn, L.G.; Behrens, O.K.
 J. Am. Chem. Soc. 79, 2807-2810, 1957
 A;Title: The amino acid sequence of glucagon. V. Location of amide groups, acid degradation studies and summary of sequential evidence.
 A;Reference number: A91781
 A;Accession: A91781
 A;Molecule type: protein
 A;Residues: 33-61 <BRO>
 R;Orskov, C.; Bersani, M.; Johnsen, A.H.; Hojrup, P.; Holst, J.J.
 J. Biol. Chem. 264, 12826-12829, 1989

A;Title: Complete sequences of glucagon-like peptide-1 from human and pig small intestine.
 A;Reference number: A92732; MUID:89327238; PMID:2753890
 A;Accession: B32614
 A;Molecule type: protein
 A;Residues: 78-107 <ORS>
 R;Buhl, T.; Thim, L.; Kofod, H.; Orskov, C.; Harling, H.; Holst, J.J.
 J. Biol. Chem. 263, 8621-8624, 1988
 A;Title: Naturally occurring products of proglucagon 111-160 in the porcine and human small intestine.
 A;Reference number: A28064; MUID:88243712; PMID:3379036
 A;Accession: A28064
 A;Molecule type: protein
 A;Residues: 111-158 <BUH>
 C;Comment: X's represent missing amino acids, mostly basic, that are predicted to exist in proglucagon before cleavage after basic residues
 C;Superfamily: glucagon
 C;Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; intestine; pancreas
 F;1-69/Product: glucagon-69 #status experimental <G69>
 F;1-30/Region: glucicentin-related peptide #status experimental
 F;33-69/Product: glucagon-37 #status predicted <G37>
 F;33-61/Product: glucagon #status experimental <GCN>
 F;78-107/Product: glucagon-like peptide 1 #status experimental <GL1>
 F;126-158/Product: glucagon-like peptide 2 #status experimental <GL2>
 F;107/Modified site: amidated carboxyl end (Arg) (amide in mature form from following glycine) #status experimental

GCPG Length: 158 January 22, 2004 17:52 Type: P Check: 106 ..

1 RSLQNTTEKS RSFPAPQTDLP LDDPDQMTED KRHSQGTFTS DYSKYLDSSR

51 AQDFVQWLMN TKRNKNIAK XXXXXXXHAE GTFTSDVSSY LEGQAQKEFI

101 AMLVKGRGXX DPPEEVNIVE ELGRRHADGS FSDENNVYLD NLATRDPIFNW

151 LLHTKITD

IIAA SEQUENCE 1.0
 F1;A57294 - glucagon precursor - mouse
 C;Species: Mus musculus (house mouse)
 C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 16-Jul-1999
 C;Accession: A57294; S49903
 R;Rothenberg, M.B.; Ellertson, C.D.; Klein, K.; Zhou, Y.; Lindberg, I.; McDonald, J.K.; Mackin, R.B.; Nee, B.D.
 J. Biol. Chem. 270, 10136-10146, 1995
 A;Title: Processing of mouse proglucagon by recombinant prohormone convertase 1 and immunopurified prohormone convertase 2 in vitro.
 A;Reference number: A57294; MUID:95247722; PMID:7730317
 A;Accession: A57294
 A;Status: preliminary
 A;Molecule type: mRNA
 A;Residues: 1-180 <ROT>
 A;Cross-references: EMBL:Z46845; NID:G599880; PIDN:CAA869021; PID:G599881
 C;Superfamily: glucagon
 C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas

A57294 Length: 180 January 22, 2004 17:52 Type: P Check: 8386 ..

1 MKTIYFVAGL LIMLVQSWQ HALQTEENP RSFPASQTEA HEDPDENKED

51 KRHSQGTFTS DYSKYLDSSR AQDFVQWLMN TKRNKNIAK RHDEFERHAE

101 GTFTSDVSSY LEGQAQKEFI AMLVKGRGRR DPPEVAIAE ELGRRHADGS

151 FSDENNVYLD NLATRDPIFNW LIQTKITDKK

! FINDPATTERNS on swp:* allowing 0 mismatches

Databases searched:
SWISS-PROT, Release 41.1, Released on 6Jun2003, Formatted on 9Jun2003
SPTRMBL, Release 23.0, Released on 4Mar2003, Formatted on 7Mar2003

Total finds: 10
Total length: 305,079,309
Total sequences: 959,388
CPU time: 08:11.42

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1 1 H(A,G,V)EGFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG      Ja
      GLUC_BOVIN ck: 2043 len: 180 | P01272 bos taurus (bovine). glucagon precursor
      H(A,G,V)EGFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
      H(A)EGFTSDVSSYL(E)GOAAK(E)FIAMLVKGRG
      98: DEPER      HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG      RRDFP

1      GLUC_CAVPO ck: 629 len: 180 | P05110 cavia porcellus (guinea pig). glucagon precursor
      H(A,G,V)EGFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
      H(A)EGFTSDVSSYL(E)GOAAK(E)FIAMLVKGRG
      98: DEPER      HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG      RRDFP

1      GLUC_HUMAN ck: 9748 len: 180 | P01275 homo sapiens (human). glucagon precursor
      H(A,G,V)EGFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
      H(A)EGFTSDVSSYL(E)GOAAK(E)FIAMLVKGRG
      98: DEPER      HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG      RRDFP

1      GLUC_MESAU ck: 1008 len: 180 | P01273 mesocricetus auratus (golden hamster). glucagon precursor
      H(A,G,V)EGFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
      H(A)EGFTSDVSSYL(E)GOAAK(E)FIAMLVKGRG
      98: DEPER      HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG      RRDFP

1      GLUC_MOUSE ck: 8386 len: 180 | P55095 mus musculus (mouse). glucagon precursor
      H(A,G,V)EGFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
      H(A)EGFTSDVSSYL(E)GOAAK(E)FIAMLVKGRG
      98: DEPER      HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG      RRDFP

1      GLUC_OCTDE ck: 736 len: 180 | P22890 octodon degus (degus). glucagon precursor
      H(A,G,V)EGFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
      H(A)EGFTSDVSSYL(E)GOAAK(E)FIAMLVKGRG
      98: DEPER      HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG      RRDFP

1      GLUC_PIG ck: 9476 len: 158 | P01274 sus scrofa (pig). glucagon precursor
      H(A,G,V)EGFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
      H(A)EGFTSDVSSYL(E)GOAAK(E)FIAMLVKGRG
      78: XXXXX      HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG      RRDFP

1      GLUC_RAT ck: 9106 len: 180 | P06883 rattus norvegicus (rat). glucagon precursor
      H(A,G,V)EGFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
      H(A)EGFTSDVSSYL(E)GOAAK(E)FIAMLVKGRG
      98: DEPER      HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG      RRDFP

1      Q8MJ25 ck: 9513 len: 176 | Q8mj25 ovis aries (sheep). preproglucagon precursor
      H(A,G,V)EGFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
      H(A)EGFTSDVSSYL(E)GOAAK(E)FIAMLVKGRG
      98: DEPER      HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG      RRDFP

1      Q95L60 ck: 1777 len: 180 | Q95l60 canis familiaris (dog). preproglucagon precursor
      H(A,G,V)EGFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
      H(A)EGFTSDVSSYL(E)GOAAK(E)FIAMLVKGRG
      98: DEPER      HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG      RRDFP
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!!SEQUENCE LIST 1.0
! FINDPATTERNS on swp:* allowing 0 mismatches
!      1 H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG
Ja

SW:GLUC_BOVIN      ck: 2043 len: 180 finds: 1 | P01272 bos taurus (bovine). gl
SW:GLUC_CAVPO      ck: 629 len: 180 finds: 1 | P05110 cavia porcellus (guinea
SW:GLUC_HUMAN      ck: 9748 len: 180 finds: 1 | P01275 homo sapiens (human). g
SW:GLUC_MESAU      ck: 1008 len: 180 finds: 1 | P01273 mesocricetus auratus (g
SW:GLUC_MOUSE      ck: 8386 len: 180 finds: 1 | P55095 mus musculus (mouse). g
SW:GLUC_OCTDE      ck: 736 len: 180 finds: 1 | P22890 octodon degus (degu). g
SW:GLUC_PIG        ck: 9476 len: 158 finds: 1 | P01274 sus scrofa (pig). gluc
SW:GLUC_RAT        ck: 9106 len: 180 finds: 1 | P06883 rattus norvegicus (rat)
SP_OM:Q8MJ25       ck: 9513 len: 176 finds: 1 | Q8mj25 ovis aries (sheep). pre
SP_OM:Q95LGO       ck: 1777 len: 180 finds: 1 | Q95lgo canis familiaris (dog).
\\End of list

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Databases searched:
  SWISS-PROT, Release 41.1, Released on 6Jun2003, Formatted on 9Jun2003
  SPTREMBL, Release 23.0, Released on 4Mar2003, Formatted on 7Mar2003

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Total finds:      10
Total length:    305,079,309
Total sequences:  958,388
CPU time:        10:32.02

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11AA_SEQUENCE 1.0
 ID GLUC_BOVIN STANDARD; PRT; 180 AA.
 AC P01272;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Glucagon precursor [Contains: Glucocin-related polypeptide (GRPP);
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)].
 GN CCG.
 OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Bovinae; Bos.
 OX NCBI_TaxID=9913;
 RN [1]
 RN SEQUENCE FROM N.A.
 RA MEDLINE=83299996; PubMed=6577439;
 RA Lopez L.C., Frazier M.L., Su C.-J., Kumar A., Saunders G.F.;
 RT "Mammalian pancreatic preproglucagon contains three glucagon-related
 RT peptides".
 RL Proc. Natl. Acad. Sci. U.S.A. 80:5485-5489 (1983).
 RN [2]
 RN SEQUENCE OF 53-81.
 RP MEDLINE=71166445; PubMed=5102927;
 RA Bromer W.W., Boucher M.E., Koffenberger J.E. Jr.;
 RT "Amino acid sequence of bovine glucagon".
 RL J. Biol. Chem. 246:2822-2827 (1971).
 RN [3]
 RN STRUCTURE BY NMR OF 53-81.
 RP MEDLINE=71166445; PubMed=6631957;
 RA Braun W., Wider G., Lee K.H., Wuthrich K.;
 RT "Conformation of glucagon in a lipid-water interphase by 1H nuclear
 RT magnetic resonance".
 RL J. Mol. Biol. 169:921-948 (1983).
 CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
 CC HEIGHT IN THE SMALL INTESTINE CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC
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 CC -----
 CC EMBL; K00107; AAA30538.1; -
 CC PDB; 1XK6; 13-FEB-02.
 DR InterPro; IPR00532; Glucagon.
 DR Pfam; PF00123; hormone2; 3.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 3.
 DR PROSITE; PS00260; GLUCAGON; 4.
 DR Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 KW 3D-structure.
 FT SIGNAL 1 20
 FT PEPTIDE 21 50 GLUCICENTIN-RELATED POLYPEPTIDE.
 FT PROPEP 84 89 GLUCAGON.
 FT PROPEP 92 128 GLUCAGON-LIKE PEPTIDE 1.
 FT PROPEP 131 142
 FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 FT TURN 60 64
 FT TURN 74 74
 FT TURN 75 78
 FT HELIX
 SQ SEQUENCE 180 AA; 20944 MW; 8D9B4FF05B9F15FF CRC64;

GLUC_BOVIN Length: 180 January 22, 2004 17:52 Type: P Check: 2043
 1 MKSLYFVAGL FVMLVQSMQ RSLQNTSEKS SSFPAPQDP LGPPDQDNED
 51 KRHSQGTFS DYSKYLDSSR AQPVQWLAN TKRNKNIAK RHDSFERHAE
 101 GTFTSDVSSY LEGQAQKEFI AMLVKGRGR DPPEVNIWE ELRRHADGS
 151 PSDENNTVLD SLATRDPIW LLQTKITDRK
 11AA_SEQUENCE 1.0
 ID GLUC_CAVPO STANDARD; PRT; 180 AA.
 AC P05110;
 DT 13-AUG-1987 (Rel. 05, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Glucagon precursor [Contains: Glucocin-related polypeptide (GRPP);
 DE Glucagon; Glucagon-37 (Oxyntomodulin); Glucagon-like peptide 1 (GLP1);
 DE Glucagon-like peptide 2 (GLP2)].
 GN CCG.
 OS Cavia porcellus (Guinea pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
 OX NCBI_TaxID=10141;
 RN [1]
 RN SEQUENCE FROM N.A.
 RA MEDLINE=86248118; PubMed=3755107;
 RA Selino S., Waleh M., Bell G.I., Chan S.J., Steiner D.F.;
 RT "Mutations in the guinea pig preproglucagon gene are restricted to a
 RT specific portion of the prohormone sequence".
 RL FEBS Lett. 203:25-30 (1986).
 RN [2]
 RN SEQUENCE OF 53-81.
 RP MEDLINE=86165412; PubMed=3956884;
 RA Huang C.G., Eng J., Pan Y.-C.E., Hulmes J.D., Yalow R.S.;
 RT "Guinea pig glucagon differs from other mammalian glucagons".
 RL Diabetes 35:508-512 (1986).
 RN [3]
 RN PARTIAL SEQUENCE OF 53-89.
 RP MEDLINE=86017849; PubMed=4048553;
 RA Conlon J.M., Hansen H.F., Schwartz T.W.;
 RT "Primary structure of glucagon and a partial sequence of
 RT oxyntomodulin (glucagon-37) from the guinea pig".
 RL Regul. Pept. 11:309-320 (1985).
 CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC
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 CC
 CC -----
 CC EMBL; D00014; BAA0010.1; -
 CC PIR; A24856; GCGP.
 DR HSSP; P01274; IGCN.
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 3.
 DR PRINTS; PR00275; GLUCAGON.
 DR SMART; SM00070; GLUCA; 3.
 DR PROSITE; PS00260; GLUCAGON; 4.
 DR Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
 KW SIGNAL 1 20
 FT PEPTIDE 21 50 GLUCICENTIN-RELATED POLYPEPTIDE.
 FT PROPEP 53 81
 FT PROPEP 84 89
 FT PROPEP 92 128
 FT PEPTIDE 146 178
 FT TURN 60 64
 FT TURN 74 74
 FT TURN 75 78
 FT HELIX
 SQ SEQUENCE 180 AA; 20944 MW; 8D9B4FF05B9F15FF CRC64;

FT PEPTIDE 53 89 GLUCAGON-37.
 FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 FT PROPEP 131 143
 FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 SQ SEQUENCE 180 AA; 20972 MW; 702FBI81161D2776 CRC64;
 GLUC_CAVPO Length: 180 January 22, 2004 17:52 Type: P Check: 629 ..
 1 MKSVYFVAGL FIMLAGSQ RSLQDTEKP RSVASQTD LDDPDQMDNED
 51 KRHSQGTFTS DYKYLDSRR AQQLKWLIN VKNRNNIAK RUDFERHAE
 101 GTFTSDVSSV LEGQAKEFI AMLVKGRRR DFPEEVAIVE ELGRRHADGS
 151 FSDMMNTILD NLATRDFINN LIQTKITDK
 !!AA-SEQUENCE 1.0
 ID GLUC HUMAN STANDARD; PRT; 180 AA.
 AC P01275;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Glucagon precursor [Contains: Glucocorticoid-related polypeptide (GRPP);
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)].
 GN GCG.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=88330860; PubMed=2901414;
 RA Drucker D.J.; Asa S.;
 RT "Glucagon gene expression in vertebrate brain.";
 RL J. Biol. Chem. 263:13475-13478(1988).
 [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86259053; PubMed=3725587;
 RA White J.M.; Saunders G.F.;
 RT "Structure of the human glucagon gene.";
 RL Nucleic Acids Res. 14:4719-4730(1986).
 [3]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=83271477; PubMed=6877358;
 RA Bell G.I.; Sanchez-Pescador R.; Laybourn P.J.; Najarian R.C.;
 RT "Exon duplication and divergence in the human preproglucagon gene.";
 RL Nature 304:368-371(1983).
 [4]
 RP SEQUENCE FROM N.A.
 RC TISSUE=pancreas;
 RX MEDLINE=22388257; PubMed=12477932;
 RA Strausberg R.L.; Feingold E.A.; Grouse L.H.; Derge J.G.;
 RA Klausner R.D.; Collins F.S.; Wagner L.; Shenmen C.M.; Schuler G.D.;
 RA Altschul S.F.; Zeeberg B.; Buetow K.H.; Schaefer C.F.; Bhat N.K.;
 RA Hopkins R.F.; Jordan H.; Moore T.; Max S.I.; Wang J.; Haiech F.;
 RA Datchenko L.; Marusina K.; Farmer A.A.; Rubin G.M.; Hong L.;
 RA Stapleton M.; Soares M.B.; Bonaldo M.F.; Casavant T.L.; Scheetz T.E.;
 RA Brownstein M.J.; Udén T.B.; Toghiani S.; Carninci P.; Prange C.;
 RA Raha S.S.; Loquellano N.A.; Peters G.J.; Abramson R.D.; Mullaly S.J.;
 RA Bosak S.A.; McEwan P.J.; McKernan K.J.; Malek J.A.; Gunaratne P.H.;
 RA Richards S.; Worley K.C.; Hale S.; Garcia A.M.; Gay L.J.; Hulyk S.W.;
 RA Villalón D.K.; Muzny D.M.; Sodergren E.J.; Lu X.; Gibbs R.A.;
 RA Fahy J.; Heiton E.; Kettelman M.; Madan A.; Rodrigues S.; Sanchez A.;
 RA Blakesley A.C.; Touchman J.W.; Green E.D.; Dickson M.C.;
 RA Rodriguez A.C.; Grimwood J.; Schmutz J.; Myers R.M.;
 RA Butterfield Y.S.N.; Krzyzinski M.I.; Skalska U.; Smalios D.E.;
 RA Schnerch A.; Schein J.E.; Jones S.J.M.; Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length
 human and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).

RNA SEQUENCE OF 53-81.
 RA Thomsen J., Kristiansen K., Brunfeldt K., Sundby P.;
 RT "The amino acid sequence of human glucagon.";
 RL FEBS Lett. 21:315-319(1972).
 [6]
 RNA SEQUENCE OF 98-127.
 RX MEDLINE=89327238; PubMed=2753890;
 RA Orskov C., Bersani M., Johnsen A.H., Hoejrup P., Holst J.J.;
 RT "Complete sequences of glucagon-like peptide-1 from human and pig
 small intestine.";
 RL J. Biol. Chem. 264:12826-12829(1989).
 [7]
 RNA X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS) OF 53-81.
 RX MEDLINE=98334683; PubMed=9667960;
 RA Sturm N.S., Lin Y., Burley S.K., Krstenansky J.L., Ahn J.M.;
 RA Aizich B.Y., Trivedi D., Hruby V.J.;
 RT "Structure-function studies on positions 17, 18, and 21 replacement
 analogues of glucagon: the importance of charged residues and salt
 bridges in glucagon biological activity.";
 RL J. Med. Chem. 41:2693-2700(1998).
 CC - FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC - FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC - INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION
 CC - PHARMACEUTICAL: Available under the name Glucagon (Eli Lilly) and
 CC Glucagon or Glucagon Novo Nordisk (Novo Nordisk). Used to treat
 CC severe hypoglycemia in insulin-dependent diabetics.
 CC - SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC - DATABASE: NAME=Glucagon at Eli Lilly;
 CC WWW="http://www.lillydiabetes.com/Products/PatientInfo.cfm".
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 CC or send an email to license@ebi.ac.uk).
 CC
 CC EMBL; J04040; AAA52567.1;
 CC EMBL; X03991; CAA27627.1;
 CC EMBL; V01515; CAA24759.1;
 CC EMBL; BC005278; AAH05278.1;
 CC F01; A24377; GCHU.
 CC PDB; 1BHO; 18-NOV-98.
 CC PDB; 1DOR; 23-OCT-02.
 CC Genbank; HGNC:4191; GCG.
 CC MIM; 138030;
 CC MIM; 231530;
 CC GO; GO:0003625; C:soluble fraction; TAS.
 CC GO; GO:0008283; P:cell proliferation; TAS.
 CC GO; GO:0007633; P:feeding behavior; TAS.
 CC GO; GO:0007186; P:protein coupled receptor protein signaling; TAS.
 CC GO; GO:0007165; P:signal transduction; TAS.
 CC InterPro; IPR000532; Glucagon.
 CC Pfam; PF00123; hormone2; 3.
 CC SMART; SM00070; GLUCA; 3.
 CC PROSITE; PS00260; GLUCAGON; 4.
 CC Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 CC Pharmacological; 3D-structure; Polymorphism.
 CC SIGNAL 1 20 GLUCANTIN-RELATED POLYPEPTIDE.
 CC PEPTIDE 21 50 GLUCAGON.
 CC PROPEP 53 81
 CC PEPTIDE 84 96
 CC PEPTIDE 98 127 GLUCAGON-LIKE PEPTIDE 1.
 CC PROPEP 131 143
 CC PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 CC VARIANT 115 115 A -> V (IN dbSNP:5650).

FT FT CONFLICT 82 82 /FTID=VAR_014596.
 FT TURN 59 62 K -> N (IN REF. 3).
 FT HELIX 63 77
 FT TURN 78 79
 SQ SEQUENCE 180 AA; 20909 MW; 7A99EC629B2862C CRC64;
 GLUC_HUMAN Length: 180 January 22, 2004 17:52 Type: P Check: 9748
 1 MKSIYFVAGL FVMLVQGSQ RSLQDTEKS RSPASQADP LSDPDQNNED
 51 KRHSQGTFTS DYSKYLDSTR AQDFVQWLMN TKRNRRNNIAK RHDFERHAE
 101 GTFTSDVSSY LEGQAAKEFI AWLVKGRGR DPPEEVAIVE ELGRRHADGS
 151 FSDENMTILD NLARDFINW LIQTKITDRK
 !!AA_SEQUENCE 1.0
 ID GLUC_MESAU STANDARD; PRT; 180 AA.
 AC P01273;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 01-OCT-1996 (Rel. 33, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Glucagon precursor [Contains: Glucocorticoid-related polypeptide (GRPP);
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)].
 GN GCG.
 OS Mesocricetus auratus (Golden hamster).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
 OC Mesocricetus.
 OX NCBI_TaxID=10036;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=83167563; PubMed=6835407;
 RA Bell G.I.; Santorre R.F.; Mullenbach G.T.;
 RT "Hamster preproglucagon contains the sequence of glucagon and two
 RT related peptides";
 RL Nature 302:716-718(1983).
 RN [2]
 RP REVISIONS TO 12-15.
 RA Submitted (XXX-1985) to the EMBL/GenBank/DBJ databases.
 RL Submitted (JUN-2000) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -!- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC
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 CC or send an email to license@isb-sib.ch).
 CC
 DR EMBL; J00059; AAA37074.1; -
 DR HSP; P01274; 1GCM.
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 3.
 DR SMART; SM00070; GLUCA; 3.
 DR PROSITE; PS00260; GLUCAGON; 4.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
 FT SIGNAL 1 20 GLUCENTIN-RELATED POLYPEPTIDE.
 FT PEPTIDE 21 50 GLUCAGON.
 FT PROPEP 84 89
 FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 FT PROPEP 131 143

FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 SQ SEQUENCE 180 AA; 20954 MW; 02791B49D7AADD4B CRC64;
 GLUC_MESAU Length: 180 January 22, 2004 17:52 Type: P Check: 1008
 1 MKNIYIVAGF FVVLVQGSQ HSLQDTEKS RSPASQADP LSDPDQNNED
 51 KRHSQGTFTS DYSKYLDSTR AQDFVQWLMN TKRNRRNNIAK RHDFERHAE
 101 GTFTSDVSSY LEGQAAKEFI AWLVKGRGR DPPEEVEIVE ELGRRHADGS
 151 FSDENMTILD SLATRDFINW LIQTKITDKK
 !!AA_SEQUENCE 1.0
 ID GLUC_MOUSE STANDARD; PRT; 180 AA.
 AC P55095;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Glucagon precursor [Contains: Glucocorticoid-related polypeptide (GRPP);
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)].
 GN GCG.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Pancratic islets;
 RX MEDLINE=95247722; PubMed=7730317;
 RA Rothenberg M.E.; Ellertson C.D.; Klein K.; Zhou Y.; Linberg I.;
 RA McDonald J.K.; Macklin R.B.; Noe B.D.;
 RT "Processing of mouse proglucagon by recombinant prohormone convertase
 RT 1 and immunopurified prohormone convertase 2 in vitro";
 RL J. Biol. Chem. 270:10136-10146(1995).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA Shamsadin R.; Knebel W.;
 RT "Mouse glucagon full length cDNA";
 RL Submitted (JUN-2000) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -!- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -!- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -!- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
 CC
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 CC or send an email to license@isb-sib.ch).
 CC
 DR EMBL; Z46845; CAA86902.1; -
 DR EMBL; AF276754; AAK36898.1; -
 DR PIR; A57294; A57294.
 DR HSP; P01274; 1GCM.
 DR MGI; MGI:95674; Gcg.
 DR InterPro; IPR000532; Glucagon.
 DR Pfam; PF00123; hormone2; 3.
 DR SMART; SM00070; GLUCA; 3.
 DR PROSITE; PS00260; GLUCAGON; 4.
 KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
 FT SIGNAL 1 20 BY SIMILARITY.
 FT PEPTIDE 21 50 GLUCENTIN-RELATED POLYPEPTIDE.
 FT PROPEP 53 81 GLUCAGON.
 FT PEPTIDE 84 89

FT PEPTIDE 92 128 GLUCAGON-LIKE PEPTIDE 1.
 FT PROPEP 131 143
 FT PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 SQ SEQUENCE 180 AA; 20906 MW; 595AAGDD9A589950 CRC64;

GLUC_MOUSE Length: 180 January 22, 2004 17:52 Type: P Check: 8386

1 MKTIYFVAGL LIMLVQSGWQ HALQDTEENP RSPASQTEA HEDDPDMNED
 51 KRHSQGTFTS DYSKYLDSSR AODFVQVLMN TKENRNINAK RHDEPERHAE
 101 GTFTSDVSSY LEGQAQKEFI AMLVKGRRR DPPEEVAIAE ELGRRHADGS
 151 FSDENSTILD NLATRDFINW LIQTKITDKK

!!AA_SEQUENCE 1.0 STANDARD; PRT; 180 AA.
 ID GLUC_OCTDE
 AC P22890;

DT 01-AUG-1991 (Rel. 19, Created)
 DT 01-AUG-1991 (Rel. 19, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Glucagon precursor [Contains: Glucocorticoid-related polypeptide (GRPP);
 DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
 DE (GLP2)].
 GN GCG.
 OS Octodon degus (Degu).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hystericognathi; Octodontidae; Octodon.
 OX NCBI_TaxID=10160;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=91155952; PubMed=2293024;
 RA Niehi M., Steiner D.F.;
 RT "Cloning of complementary DNAs encoding islet amyloid polypeptide,
 RT insulin, and glucagon precursors from a New World rodent, the degu,
 RT Octodon degus.";
 RL Mol. Endocrinol. 4:1192-1198(1990).
 CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLUCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.

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 CC -----
 CC EMBL; M57688; AAA40588.1; -;
 CC PIR; C36118; GCRTOU.
 CC HSSP; P01274; IGCN.
 CC InterPro; IPR000532; Glucagon.
 CC Pfam; PF00123; hormone2; 3.
 CC PRINTS; PR00275; GLUCAGON.
 CC SMART; SM00070; GLUCA; 3.
 CC PROSITE; PS00260; GLUCAGON; 4.
 CC Glucagon family; Hormone; Cleavage on pair of basic residues; Signal;
 CC Amidation.
 CC SIGNAL 1 20
 CC PEPTIDE 21 50 GLUCICIN-RELATED POLYPEPTIDE.
 CC PEPTIDE 53 81 GLUCAGON.
 CC PROPEP 84 89
 CC PEPTIDE 92 127 GLUCAGON-LIKE PEPTIDE 1.
 CC PROPEP 131 142
 CC PEPTIDE 146 178 GLUCAGON-LIKE PEPTIDE 2.
 CC MOD RES 127 127 AMIDATION (G-128 PROVIDE AMIDE GROUP).
 CC SEQUENCE 180 AA; 21165 MW; 6E8B36160A9A3051 CRC64;

GLUC_OCTDE Length: 180 January 22, 2004 17:52 Type: P Check: 736
 1 MKSIYFVAGL FVLMVQSGWQ HPLQDTEKEP RSPSTQTDL LDDPDQNNED

51 KRHSQGTFTS DYSKYLDTRR AODFLDLKN TKENREINAK RHDEPERHAE
 101 GTFTSDVSSY LEGQAQKEFI AMLVKGRRR DPPEEVTIVE ELRRHADGS
 151 FSDENNTVLD HLATKDFINW LIQTKITDRK

!!AA_SEQUENCE 1.0 STANDARD; PRT; 158 AA.
 ID GLUC_PIG
 AC P01274;

DT 21-JUL-1986 (Rel. 01, Created)
 DT 01-NOV-1990 (Rel. 16, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Glucagon precursor [Contains: Glucocorticoid-related polypeptide
 DE (GRPP); Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like
 DE peptide 2 (GLP2)] (Fragment).
 GN GCG.
 OS Sus scrofa (Pig).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
 OX NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE OF 1-69.
 RX MEDLINE=81248172; PubMed=6894800;
 RA Thim L., Moody A.J.;
 RT "The primary structure of porcine glucicentin (proglucagon).";
 RL Regul. Pept. 2:139-150(1981).
 RN [2]
 RP SEQUENCE OF 1-69.
 RX MEDLINE=82221776; PubMed=7045833;
 RA Thim L., Moody A.J.;
 RT "The amino acid sequence of porcine glucicentin.";
 RL Peptides 2 Suppl. 2:37-39(1981).
 RN [3]
 RP SEQUENCE OF 33-61.
 RA Bromer W.W., Sinn L.G., Behrens O.K.;
 RT "The amino acid sequence of glucagon. V. Location of amide groups,
 RT acid degradation studies and summary of sequential evidence.";
 RL J. Am. Chem. Soc. 79:2807-2810(1957).
 RN [4]
 RP SEQUENCE OF 78-107.
 RX MEDLINE=89327238; PubMed=2753890;
 RA Orskov C., Bersani M., Johnsen A.H., Hoejrup P., Holst J.J.;
 RT "Complete sequences of glucagon-like peptide-1 from human and pig
 RT small intestine.";
 RL J. Biol. Chem. 264:12826-12829(1989).
 RN [5]
 RP SEQUENCE OF 111-158.
 RX MEDLINE=88243712; PubMed=3379036;
 RA Buhl T., Thim L., Kofod H., Orskov C., Harling H., Holst J.J.;
 RT "Naturally occurring products of proglucagon 111-160 in the porcine
 RT and human small intestine.";
 RL J. Biol. Chem. 263:8621-8624(1988).
 RN [6]
 RP X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS).
 RX MEDLINE=76051297; PubMed=171582;
 RA Sasaki K., Dockrill S., Adamak D.A., Tickle I.J., Blundell T.L.;
 RT "X-ray analysis of glucagon and its relationship to receptor
 RT binding.";
 RL Nature 257:751-757(1975).
 CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLUCOGEN AND LIPIDS, AND
 CC RAISES THE BLOOD SUGAR LEVEL.
 CC -1- FUNCTION: GLP2 STIMULATES INTESTINAL GROWTH AND UPREGULATES VILLUS
 CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
 CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
 CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS
 CC IN RESPONSE TO A DROP IN BLOOD SUGAR CONCENTRATION.
 CC -1- MISCELLANEOUS: X'S IN THE SEQUENCE WERE INCLUDED BY HOMOLGY WITH
 CC HUMAN SEQUENCE.

CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
DR PDB: 1GCM; 30-SEP-83.
DR InterPro: IPR000532; Glucagon.
DR Pfam: PF00123; hormone2; 3.
DR SMART: SM00070; GLUCA; 3.
DR PROSITE: PS00260; GLUCAGON; 3.
KW Glucagon family; Hormone; Cleavage on pair of basic residues;
FT 3D-structure.
FT NON_TER 1 1
FT PEPTIDE 1 69
FT PEPTIDE 1 30
FT PEPTIDE 33 61
FT PEPTIDE 78 107
FT PEPTIDE 126 158
FT PEPTIDE 39 42
FT HELIX 43 45
FT TURN 43 45
FT HELIX 46 55
FT TURN 56 57
SQ SEQUENCE 158 AA; 18212 MW; 28C6FCF257F333B2 CRC64;
GLUC_PIG Length: 158 January 22, 2004 17:52 Type: P Check: 9476
1 RSLQNTTEKS RSFPAPQTD LDDPDQMTED KRHSQGTFTS DYSKYLDSSR
51 ADFVQWLNN TRKNNTIAK XXXXXXXHAE GTFTSDVSSY LEGQAAKEFI
101 ANLVKGRGR DPPEEIVE ELGRRHADGS FSDEMNTVLD NLATRDFINW
151 LLHTKITD
11AA SEQUENCE 1.0 STANDARD; PRT; 180 AA.
ID GLUC_RAT
AC P06883;
DT 01-JAN-1988 (Rel. 06, Created)
DT 01-JAN-1988 (Rel. 06, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Glucagon precursor [Contains: Glucagon-related polypeptide (GRPP);
DE Glucagon; Glucagon-like peptide 1 (GLP1); Glucagon-like peptide 2
DE (GLP2)].
GN GCG.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=85054853; PubMed=6094539;
RA Heinrich G., Gros P., Habener J.F.;
RT "Glucagon gene sequence. Four of six exons encode separate functional
RT domains of rat pre-proglucagon.";
RL J. Biol. Chem. 259:14082-14087(1984).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=85051023; PubMed=6548696;
RA Heinrich G., Gros P., Lund P.K., Bentley R.C., Habener J.F.;
RT "Pre-proglucagon messenger ribonucleic acid: nucleotide and encoded
RT amino acid sequences of the rat pancreatic complementary
RT deoxyribonucleic acid.";
RL Endocrinology 115:2176-2181(1984).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=86304324; PubMed=3528148;
RA Mojsov S., Heinrich G., Wilson I.B., Ravazzola M., Orci L.,
RA Habener J.F.;
RT "Preproglucagon gene expression in pancreas and intestine diversifies
RT at the level of post-translational processing.";
RL J. Biol. Chem. 261:11880-11889(1986).
CC -1- FUNCTION: GLUCAGON PROMOTES HYDROLYSIS OF GLYCOGEN AND LIPIDS, AND
CC RAISES THE BLOOD SUGAR LEVEL.
CC -1- FUNCTION: GLP2 STIMULATES INTestinal GROWTH AND UPREGULATES VILLUS
CC HEIGHT IN THE SMALL INTESTINE, CONCOMITANT WITH INCREASED CRYPT
CC CELL PROLIFERATION AND DECREASED ENTEROCYTE APOPTOSIS.
CC -1- INDUCTION: PRODUCED IN THE A CELLS OF THE ISLETS OF LANGERHANS

CC -1- SIMILARITY: BELONGS TO THE GLUCAGON FAMILY.
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CC EMBL; K02813; AAA41235.1;
DR EMBL; K02809; AAA41235.1; JOINED.
DR EMBL; K02810; AAA41235.1; JOINED.
DR EMBL; K02811; AAA41235.1; JOINED.
DR EMBL; K02812; AAA41235.1; JOINED.
DR FIR; A22655; GCRT.
DR HSSP; P01274; IGCN.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 3.
DR PRINTS; PR00275; GLUCAGON.
DR SMART; SM00070; GLUCA; 3.
DR PROSITE; PS00260; GLUCAGON; 4.
KW Glucagon family; Hormone; Cleavage on pair of basic residues; Signal.
FT SIGNAL 1 20
FT PEPTIDE 21 50
FT PEPTIDE 53 81
FT PROPEP 84 89
FT PEPTIDE 92 128
FT PROPEP 131 143
FT PEPTIDE 146 178
SQ SEQUENCE 180 AA; 20846 MW; 76931409D03C7978 CRC64;
GLUC_RAT Length: 180 January 22, 2004 17:52 Type: P Check: 9106
1 MKTVYIVAGL FVLVQGSQW HAPQDTEENA RSFPASQTEP LEDPDQIENED
51 KRHSQGTFTS DYSKYLDSSR ADFVQWLNN TRKNNTIAK RHDEPRHAE
101 GTFTSDVSSY LEGQAAKEFI ANLVKGRGR DPPEEVAIAE ELGRRHADGS
151 FSDEMNTVLD NLATRDFINW LIQTKITDKK
11AA SEQUENCE 1.0 PRELIMINARY; PRT; 176 AA.
ID Q8MJ25
AC Q8MJ25;
DT 01-OCT-2002 (TrEMBLrel. 22, Created)
DT 01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE Preproglucagon (Fragment).
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=pancreas;
RA Linesand S.W., Hay W.W. Jr.;
RT "Characterization of the endocrine pancreas in an ovine placental
RT insufficiency IUGR fetus.";
RL Submitted (JUL-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF529185; AAM94409.1;
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 3.
DR PRINTS; PR00275; GLUCAGON.
DR SMART; SM00070; GLUCA; 3.
DR PROSITE; PS00260; GLUCAGON; 2.
FT NON_TER 176 176
SQ SEQUENCE 176 AA; 20335 MW; 13174039BD6CE2B3 CRC64;
Q8MJ25 Length: 176 January 22, 2004 17:52 Type: P Check: 9513

1 MKSLYFVAGL LVMLAQGSWQ HSLQNTTEKS SFPAPQTPD LGDPDOISED
51 KRHSQGTFTS DYSKYLDSTR AODFVQWLMN TKRNKNIAK RHDEFERHAE
101 GTFTSDVSSY LEGQAAKEFI AWLVKGRGR DPPEEVAIVE ELRRRHADGS
151 FSDMNTVLD SLATRDFINW LLQTKI

!!AA SEQUENCE 1.0 PRELIMINARY; PRT; 180 AA.
ID Q95LGO
AC Q95LGO;
DT 01-DEC-2001 (TrEMBLrel. 19, Created)
DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
DE Preproglucagon.
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX NCBI_TaxID=9615;
RN [1]
RP SEQUENCE FROM N.A.
RA Irwin D.M.;
RT "cDNA cloning of proglucagon from the stomach and pancreas of the
RT dog.";
RL Submitted (SEP-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF308439; AAL09425.1; -.
DR InterPro; IPR000532; Glucagon.
DR Pfam; PF00123; hormone2; 3.
DR PRINTS; PR00275; GLUCAGON.
DR SMART; SM00070; GLUCA; 3.
DR PROSITE; PS00260; GLUCAGON; 2.
SQ SEQUENCE 180 AA; 21114 MW; 80F66941AFC324FD CRC64;

Q95LGO Length: 180 January 22, 2004 17:52 Type: P Check: 1777 ..

1 MKSIYFVAGL FVNLVQGSWQ RSLQDTEKS RSFSAPQTEP LNDLQDWNED
51 KRHSQGTFTS DYSKYLDSTR AODFVQWLMN TKRNKNIAK RHDEFERHAE
101 GTFTSDVSSY LEGQAAKEFI AWLVKGRGR DPPEEVAIVE ELRRRHADGS
151 FSDMNTVLD SLATRDFINW LLQTKITDRK

FINDPATTERNS on geneseqp:* allowing 0 mismatches

1 1 H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG Jc

AAP71072 ck: 7361 len: 31 1 Aap71072 Insulinotropic peptide comprising
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAR07397 ck: 7361 len: 31 1 Aar07397 Glucagon-like peptide, GLP-1 (7-37)
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAR13420 ck: 7361 len: 31 1 Aar13420 Glucagon-like peptide-1 (H)7-GLP-1
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAR13422 ck: 7361 len: 31 1 Aar13422 Glucagon-like peptide-1 (A)8-GLP-1
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAR13423 ck: 7361 len: 31 1 Aar13423 Glucagon-like peptide-1 (E)9-GLP-1
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAR42668 ck: 7361 len: 31 1 Aar42668 Glucagon-like peptide (GLP-1(7-37))
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAR45432 ck: 2897 len: 37 1 Aar45432 Glucagon-like peptide I derivative
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

7: DEFER

AAR45434 ck: 7361 len: 31 1 Aar45434 Insulinotropin derivative. 3/2003
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAR63245 ck: 2897 len: 37 1 Aar63245 Glucagon-like peptide 1 (GLP-1) for
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

7: DEFER

AAR63246 ck: 7361 len: 31 1 Aar63246 Insulinotropin (GLP-1(7-37)) for
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAR75885 ck: 7361 len: 31 1 Aar75885 Glucagon like peptide-1(7-36),
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAR69065 ck: 7361 len: 31 1 Aar69065 Glucagon like peptide 1 (GLP1)
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAR69076 ck: 2897 len: 37 1 Aar69076 Glucagon like peptide 1 (GLP1)
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

7: DEFER

AAW03851 ck: 7361 len: 31 1 Aaw03851 Glucagon like peptide 1 (7-37)
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAW03907 ck: 7361 len: 31 1 Aaw03907 Glucagon like peptide 1 (7-37)
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAW03929 ck: 7361 len: 31 1 Aaw03929 Glucagon like peptide 1 (7-37)
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAW03899 ck: 7361 len: 31 1 Aaw03899 Glucagon like peptide 1 (7-37)
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAW03865 ck: 7361 len: 31 1 Aaw03865 Glucagon like peptide 1 (7-37)
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAW03866 ck: 7361 len: 31 1 Aaw03866 Glucagon like peptide 1 (7-37)
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAW03867 ck: 7361 len: 31 1 Aaw03867 Glucagon like peptide 1 (7-37)
H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG
H(A)EGTFTSDVSSYL(E,Q)GOAAK(E)FIAMLVKGRG
1: HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG

AAW03853 ck: 7361 len: 31 1 Aaw03853 Glucagon like peptide 1 (7-37)

1	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	1	HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	1:	HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG			
AAW03854	ck: 7361	len: 31	I	Aaw03854	Glucagon like peptide 1 (7-37) and	AAW63289	ck: 7403	len: 31	I	Aaw63289	Val ¹⁸ -Glucagon-like peptide-1
1	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	AAW63180	ck: 8034	len: 45	I	Aaw63180	GLP-1(1-45) 9/1998
AAW03855	ck: 7361	len: 31	I	Aaw03855	Glucagon like peptide 1 (7-37) and	7: DEFER					
1	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	AAW63183	ck: 7361	len: 31	I	Aaw63183	GLP-1(7-37) 9/1998
AAW03873	ck: 7373	len: 31	I	Aaw03873	Glucagon like peptide 1 (7-37) and	1	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(G)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HGEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG
1	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(G)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HGEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	AAW63184	ck: 9985	len: 32	I	Aaw63184	GLP-1(7-38) 9/1998
AAW22079	ck: 8911	len: 180	I	Aaw22079	Rat preproglucagon. 2/1998	1	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG
98: DEFER					ERDFF	AAW63185	ck: 2691	len: 33	I	Aaw63185	GLP-1(7-39) 9/1998
AAW22080	ck: 9748	len: 180	I	Aaw22080	Human preproglucagon. 2/1998	1	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG
98: DEFER					RRDFF	AAW63186	ck: 5003	len: 34	I	Aaw63186	GLP-1(7-40) 9/1998
AAW22081	ck: 8864	len: 180	I	Aaw22081	Human preproglucagon mutant (R52A)	1	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG
98: DEFER					RRDFF	AAW63187	ck: 7453	len: 35	I	Aaw63187	GLP-1(7-41) 9/1998
AAW24389	ck: 7361	len: 31	I	Aaw24389	Glucagon-like peptide GLP-1(7-37)	1	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG
1	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	AAW63190	ck: 2897	len: 37	I	Aaw63190	GLP-1(1-37) 9/1998
AAW24390	ck: 7403	len: 31	I	Aaw24390	Glucagon-like peptide GLP-1(7-37)	1	7: DEFER				
1	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	AAW63191	ck: 6013	len: 38	I	Aaw63191	GLP-1(1-38) 9/1998
AAW16384	ck: 8962	len: 180	I	Aaw16384	Rat prepro-glucagon. 3/2003	1	7: DEFER				
98: DEFER					RRDFF	AAW63192	ck: 9211	len: 39	I	Aaw63192	GLP-1(1-39) 9/1998
AAW63287	ck: 7361	len: 31	I	Aaw63287	Glucagon-like peptide-1 (7-37) 9/	1	7: DEFER				
1	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG	1	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HAEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1	7: DEFER				

1	AAY22167	ck: 7403 len: 31	1	Aay22167 GLP-1-like peptide. 9/1999	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	98: DEPER	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	ERDPP
1	AAY18036	ck: 7361 len: 31	1	Aay18036 GLP-1(7-37)OH peptide. 8/1999	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	98: DEPER	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	RRDPP
1	AAB21328	ck: 7361 len: 31	1	Aab21328 GLP-1(7-37) peptide. 2/2001	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	98: DEPER	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	RRDPP
1	AAB21331	ck: 7403 len: 31	1	Aab21331 GLP-1 analogue ValGLP-1(7-37). 2/2001	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	278: DEPER	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	RRDPP
1	AAB21334	ck: 7373 len: 31	1	Aab21334 GLP-1 analogue Gly8-GLP-1(7-37). 2/2001	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(G)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1:
1	AAB21339	ck: 7361 len: 31	1	Aab21339 GLP-1(7-37) peptide. 2/2001	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	97: DSQAR	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	97: DSQAR
1	AAB21347	ck: 7403 len: 31	1	Aab21347 GLP-1 analogue #7. 2/2001	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(G)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	98: SLVPR	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	98: SLVPR
1	AAB21350	ck: 7373 len: 31	1	Aab21350 GLP-1 analogue #10. 2/2001	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(G)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1:	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	1:
1	AAB21109	ck: 7361 len: 31	1	Aab21109 Human glucagon-like peptide-1 GLP-1	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	AAY83149	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	AAY83149
1	AAB21348	ck: 1498 len: 184	1	Aab21348 Plasmid pc11784H ompRHR protein	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	AAY78950	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	AAY78950
154: SRHPR	AAB26773	ck: 8911 len: 180	1	Aab26773 Rat preproglucagon amino acid sequ	1	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	AAY67372	H(A,G,V)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG H(A)EGTFTSDVSSYL(E,Q)GOAAK(E,Q)FIAMLVKGRG HVEGTFTSDVSSYLEGQAAKEFIAMLVKGRG	AAY67372

1	AAV67374	ck: 2897	len: 37	I Aay67374	Glucagon-like peptide-1 (1-37) am	1	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG	1:	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG
1	7: DEFER								
1	ABG71251	ck: 2897	len: 37	I Abg71251	Human glucagon-like peptide-1 (GLP	1	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG	1:	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG
1	7: DEFER								
1	ABG71253	ck: 7361	len: 31	I Abg71253	Human glucagon-like peptide-1 (GLP	1	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG	1:	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG
1	1:								
1	AAE25338	ck: 7403	len: 31	I Aae25338	Human glucagon-like peptide-1 rela	1	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(V) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HVEGFTTSDVSSYLEGQAAKEFIAMLVKGRG	7: DEFER	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG
1	1:								
1	AAE25339	ck: 7361	len: 31	I Aae25339	Human glucagon-like peptide-1 rela	1	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG	1:	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG
1	1:								
1	AAO22093	ck: 7361	len: 31	I Aao22093	Glucagon-like peptide-1 (GLP-1), s	1	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG	1:	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG
1	1:								
1	ABB80094	ck: 2897	len: 37	I Abb80094	Glucagon like peptide-1 (GLP-1) 1-	1	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG	7: DEFER	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG
1	1:								
1	ABB80096	ck: 7361	len: 31	I Abb80096	Glucagon like peptide-1 (GLP-1) 7-	1	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG	1:	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG
1	1:								
1	ABB80861	ck: 7361	len: 31	I Abb80861	Human glucagon-like peptide-1 (GLP	1	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG	7: DEFER	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG
1	1:								
1	ABB80862	ck: 7403	len: 31	I Abb80862	Glucagon-like peptide-1 (GLP-1) Va	1	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(V) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HVEGFTTSDVSSYLEGQAAKEFIAMLVKGRG	1:	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG HAEFTTSDVSSYLEGQAAKEFIAMLVKGRG
1	1:								
1	AAU85972	ck: 7361	len: 31	I Aau85972	Modified human glucagon-like peptid	1	H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG		H(A,G,V) EGTFTSDVSSYL(E,Q) GOAAK(E,Q) FIAMLVKGRG H(A) EGTFTSDVSSYL(E) GOAAK(E) FIAMLVKGRG

AAB30702	ck: 1397	len: 378	I Aab30702 A Bacillus pectate lyase and
H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
H(A)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
HAEGTFTSDVSSYLEGGQAQKEFIAMLVKGRG			
348: PASKR			
AAB30703	ck: 6043	len: 386	I Aab30703 A Bacillus pectate lyase and h
H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
H(A)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
HAEGTFTSDVSSYLEGGQAQKEFIAMLVKGRG			
356: EPTKR			
AAB49694	ck: 7361	len: 31	I Aab49694 Glucagon-like peptide 1 (GLP-1)
H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
H(A)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
HAEGTFTSDVSSYLEGGQAQKEFIAMLVKGRG			
1:			
AAB49695	ck: 2897	len: 37	I Aab49695 Glucagon-like peptide 1 (GLP-1)
H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
H(A)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
HAEGTFTSDVSSYLEGGQAQKEFIAMLVKGRG			
7: DEPER			
AAB60246	ck: 2897	len: 37	I Aab60246 Glucagon-like peptide-1, GLP-1
H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
H(A)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
HAEGTFTSDVSSYLEGGQAQKEFIAMLVKGRG			
7: DEPER			
AAB60248	ck: 7361	len: 31	I Aab60248 Glucagon-like peptide-1, GLP-1
H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
H(A)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
HAEGTFTSDVSSYLEGGQAQKEFIAMLVKGRG			
1:			
AAB48790	ck: 2897	len: 37	I Aab48790 Glucagon-like peptide 1 (GLP-1)
H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
H(A)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
HAEGTFTSDVSSYLEGGQAQKEFIAMLVKGRG			
7: DEPER			
AAB48791	ck: 7361	len: 31	I Aab48791 Glucagon-like peptide 1 derivative
H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
H(A)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
HAEGTFTSDVSSYLEGGQAQKEFIAMLVKGRG			
1:			
AAB36413	ck: 2897	len: 37	I Aab36413 Glucagon-like peptide-1 (1-37)
H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
H(A)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
HAEGTFTSDVSSYLEGGQAQKEFIAMLVKGRG			
7: DEPER			
AAB36415	ck: 7361	len: 31	I Aab36415 Glucagon-like peptide-1 (7-37)
H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
H(A)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
HAEGTFTSDVSSYLEGGQAQKEFIAMLVKGRG			
1:			
AAB36426	ck: 2897	len: 37	I Aab36426 Glucagon-like peptide-1 (1-37)
H(A,G,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
H(A)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FIAMLVKGRG			
HAEGTFTSDVSSYLEGGQAQKEFIAMLVKGRG			
7: DEPER			

1	7: DFER	H(A) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HAEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	AAB36428	ck: 7361 len: 31 Aab36428 Glucagon-like peptide-1 (7-37) SEQ H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(A) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HAEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAB85919	ck: 2897 len: 37 Aab85919 Glucagon-like peptide-1 (GLP-1) fd H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(A) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HAEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	7: DFER		
1	AAB85921	ck: 7361 len: 31 Aab85921 Glucagon-like peptide-1 (GLP-1) fd H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(A) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HAEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAB32655	ck: 3731 len: 52 Aab32655 GLP-1 (7-37)-human IgG1 mutant Fc H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(A) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HAEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAB32943	ck: 3731 len: 52 Aab32943 GLP-1 (7-37)-human IgG1 mutant Fc H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(A) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HAEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAB30127	ck: 7361 len: 31 Aab30127 Glucagon-like peptide-1 (GLP-1) . 2 H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(A) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HAEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAB30904	ck: 7361 len: 31 Aab30904 Human glucagon-like peptide 1, GLP H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(A) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HAEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAB30916	ck: 9940 len: 616 Aab30916 Val8-GLP-1-human serum albumin (HS H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(V) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HVEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAB30917	ck: 1796 len: 631 Aab30917 Val8-GLP-1-linker-human serum albu H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(V) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HVEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAB30921	ck: 1960 len: 264 Aab30921 Val8-GLP-1-Immunoglobulin G1 (IgG1 H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(V) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HVEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		

1	AAB30922	ck: 5244 len: 272 Aab30922 Val8-GLP-1-CBx-Immunoglobulin H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(V) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HVEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAB30953	ck: 7403 len: 31 Aab30953 Human GLP/exendin peptide anal H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(V) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HVEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAB30954	ck: 7361 len: 31 Aab30954 Human GLP/exendin peptide anal H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(A) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HAEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAB31010	ck: 7403 len: 31 Aab31010 Human GLP-1 analogue, Val8-GLF H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(V) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HVEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAB31011	ck: 7373 len: 31 Aab31011 Human GLP-1 analogue, Gly8-GLF H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(G) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HVEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		
1	AAO19585	ck: 2897 len: 37 Aao19585 Mammalian GLP-1(1-37) . 2/2003 H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(A) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HAEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	7: DFER		
1	AAO19587	ck: 7361 len: 31 Aao19587 Mammalian GLP-1(7-37) . 2/2003 H(A,G,V) EGTFTSDVSSYL(E,Q) GQAAK(E,Q) FIAWLKGRG H(A) EGTFTSDVSSYL(E) GQAAK(E) FIAWLKGRG HAEGTFTSDVSSYLEGQAAKEFIAWLKGRG	
1	1:		

Databases searched:

Geneseq-AA, Release 13.0, Released on 19Jun2003, Formatted on 15Jul2003

Total finds: 142
Total length: 158,726,570
Total sequences: 1,107,863
CPU time: 05:46.96


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!!SEQUENCE_LIST 1.0
! FINDPATTERNS on geneseq: * allowing 0 mismatches
! 1 H(A,C,V)EGTFTSDVSSYL(E,Q)GQAAK(E,Q)FTAWLVKGRG

GENESEQP1990S:AAP71072 ck: 7361 len: 31 finds: 1 Aap71072 Inulinotrophic pept
GENESEQP1990S:AAR07397 ck: 7361 len: 31 finds: 1 Aar07397 Glucagon-like pepti
GENESEQP1990S:AAR13420 ck: 7361 len: 31 finds: 1 Aar13420 Glucagon-like pepti
GENESEQP1990S:AAR13422 ck: 7361 len: 31 finds: 1 Aar13422 Glucagon-like pepti
GENESEQP1990S:AAR13423 ck: 7361 len: 31 finds: 1 Aar13423 Glucagon-like pepti
GENESEQP1990S:AAR42668 ck: 7361 len: 31 finds: 1 Aar42668 Glucagon-like pepti
GENESEQP1990S:AAR45432 ck: 2897 len: 37 finds: 1 Aar45432 Glucagon-like pepti
GENESEQP1990S:AAR45434 ck: 7361 len: 31 finds: 1 Aar45434 Inulinotropin deri
GENESEQP1990S:AAR63245 ck: 2897 len: 37 finds: 1 Aar63245 Glucagon-like pepti
GENESEQP1990S:AAR63246 ck: 7361 len: 31 finds: 1 Aar63246 Inulinotropin (GLP
GENESEQP1990S:AAR75885 ck: 7361 len: 31 finds: 1 Aar75885 Glucagon like pepti
GENESEQP1990S:AAR69065 ck: 7361 len: 31 finds: 1 Aar69065 Glucagon like pepti
GENESEQP1990S:AAR69076 ck: 2897 len: 37 finds: 1 Aar69076 Glucagon like pepti
GENESEQP1990S:AAW03851 ck: 7361 len: 31 finds: 1 Aaw03851 Glucagon like pepti
GENESEQP1990S:AAW03907 ck: 7361 len: 31 finds: 1 Aaw03907 Glucagon like pepti
GENESEQP1990S:AAW03929 ck: 7361 len: 31 finds: 1 Aaw03929 Glucagon like pepti
GENESEQP1990S:AAW03899 ck: 7361 len: 31 finds: 1 Aaw03899 Glucagon like pepti
GENESEQP1990S:AAW03865 ck: 7361 len: 31 finds: 1 Aaw03865 Glucagon like pepti
GENESEQP1990S:AAW03866 ck: 7361 len: 31 finds: 1 Aaw03866 Glucagon like pepti
GENESEQP1990S:AAW03867 ck: 7361 len: 31 finds: 1 Aaw03867 Glucagon like pepti
GENESEQP1990S:AAW03853 ck: 7361 len: 31 finds: 1 Aaw03853 Glucagon like pepti
GENESEQP1990S:AAW03854 ck: 7361 len: 31 finds: 1 Aaw03854 Glucagon like pepti
GENESEQP1990S:AAW03855 ck: 7361 len: 31 finds: 1 Aaw03855 Glucagon like pepti
GENESEQP1990S:AAW03873 ck: 7373 len: 31 finds: 1 Aaw03873 Glucagon like pepti
GENESEQP1990S:AAW22079 ck: 8911 len: 180 finds: 1 Aaw22079 Rat preproglucagon
GENESEQP1990S:AAW22080 ck: 9748 len: 180 finds: 1 Aaw22080 Human preproglucag
GENESEQP1990S:AAW22081 ck: 8864 len: 180 finds: 1 Aaw22081 Human preproglucag
GENESEQP1990S:AAW24389 ck: 7361 len: 31 finds: 1 Aaw24389 Glucagon-like pepti
GENESEQP1990S:AAW24390 ck: 7403 len: 31 finds: 1 Aaw24390 Glucagon-like pepti
GENESEQP1990S:AAW16384 ck: 8962 len: 180 finds: 1 Aaw16384 Rat prepro-glucagon
GENESEQP1990S:AAW63287 ck: 7361 len: 31 finds: 1 Aaw63287 Glucagon-like pepti
GENESEQP1990S:AAW63289 ck: 7403 len: 31 finds: 1 Aaw63289 Val8-Glucagon-like
GENESEQP1990S:AAW63180 ck: 8034 len: 45 finds: 1 Aaw63180 GLP-1(1-45). 9/1998
GENESEQP1990S:AAW63183 ck: 7361 len: 31 finds: 1 Aaw63183 GLP-1(7-37). 9/1998
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GENESEQP1990S:AAW63184 ck: 9985 len: 32 finds: 1 Aaw63184 GLP-1(7-38). 9/
GENESEQP1990S:AAW63185 ck: 2691 len: 33 finds: 1 Aaw63185 GLP-1(7-39). 9/
GENESEQP1990S:AAW63186 ck: 5003 len: 34 finds: 1 Aaw63186 GLP-1(7-40). 9/
GENESEQP1990S:AAW63187 ck: 7453 len: 35 finds: 1 Aaw63187 GLP-1(7-41). 9/
GENESEQP1990S:AAW63190 ck: 2897 len: 37 finds: 1 Aaw63190 GLP-1(1-37). 9/
GENESEQP1990S:AAW63191 ck: 6013 len: 38 finds: 1 Aaw63191 GLP-1(1-38). 9/
GENESEQP1990S:AAW63192 ck: 9211 len: 39 finds: 1 Aaw63192 GLP-1(1-39). 9/
GENESEQP1990S:AAW63193 ck: 1931 len: 40 finds: 1 Aaw63193 GLP-1(1-40). 9/
GENESEQP1990S:AAW63194 ck: 4801 len: 41 finds: 1 Aaw63194 GLP-1(1-41). 9/
GENESEQP1990S:AAW63195 ck: 7361 len: 31 finds: 1 Aaw63195 GLP-1(7-37). 9/
GENESEQP1990S:AAW50902 ck: 7361 len: 31 finds: 1 Aaw50902 Glucagon-like F
GENESEQP1990S:AAW80306 ck: 7361 len: 31 finds: 1 Aaw80306 Glucagon peptid
GENESEQP1990S:AAW42936 ck: 7361 len: 31 finds: 1 Aaw42936 Glucagon-like F
GENESEQP1990S:AAW27375 ck: 7361 len: 31 finds: 1 Aaw27375 Glucagon-like F
GENESEQP1990S:AAW39772 ck: 7361 len: 31 finds: 1 Aaw39772 Glucagon like F
GENESEQP1990S:AAW39774 ck: 2897 len: 37 finds: 1 Aaw39774 Glucagon like p
GENESEQP1990S:AAW39810 ck: 7361 len: 31 finds: 1 Aaw39810 Glucagon-like p
GENESEQP1990S:AAW39812 ck: 9106 len: 180 finds: 1 Aaw39812 Preproglucagon
GENESEQP1990S:AAW34199 ck: 7361 len: 31 finds: 1 Aaw34199 GLP-1 mutant pe
GENESEQP1990S:AAW34200 ck: 9985 len: 32 finds: 1 Aaw34200 GLP-1 mutant pe
GENESEQP1990S:AAW34201 ck: 2691 len: 33 finds: 1 Aaw34201 GLP-1 mutant pe
GENESEQP1990S:AAW34202 ck: 5003 len: 34 finds: 1 Aaw34202 GLP-1 mutant pe
GENESEQP1990S:AAW34203 ck: 7453 len: 35 finds: 1 Aaw34203 GLP-1 mutant pe
GENESEQP1990S:AAW28960 ck: 5975 len: 187 finds: 1 Aaw28960 Amino acid sequ
GENESEQP1990S:AAW28961 ck: 1204 len: 184 finds: 1 Aaw28961 Amino acid sequ
GENESEQP1990S:AAW28962 ck: 1394 len: 184 finds: 1 Aaw28962 Amino acid sequ
GENESEQP1990S:AAW28959 ck: 5814 len: 154 finds: 1 Aaw28959 Amino acid sequ
GENESEQP1990S:AAW22165 ck: 7361 len: 31 finds: 1 Aaw22165 GLP-1-like pept
GENESEQP1990S:AAW22167 ck: 7403 len: 31 finds: 1 Aaw22167 GLP-1-like pept
GENESEQP1990S:AAW18036 ck: 7361 len: 31 finds: 1 Aaw18036 GLP-1(7-37)OH p
GENESEQP1990S:AAW21328 ck: 7361 len: 31 finds: 1 Aaw21328 GLP-1(7-37) pep
GENESEQP2000S:AAW21331 ck: 7403 len: 31 finds: 1 Aaw21331 GLP-1 analogue
GENESEQP2000S:AAW21334 ck: 7373 len: 31 finds: 1 Aaw21334 GLP-1 analogue
GENESEQP2000S:AAW21339 ck: 7361 len: 31 finds: 1 Aaw21339 GLP-1(7-37) pep
GENESEQP2000S:AAW21347 ck: 7403 len: 31 finds: 1 Aaw21347 GLP-1 analogue
GENESEQP2000S:AAW21350 ck: 7373 len: 31 finds: 1 Aaw21350 GLP-1 analogue
```

GENESEQP2000S: AAB21109	ck: 7361	len: 31	finds: 1	I Aab21109 Human glucagon-like
GENESEQP2000S: AAB23948	ck: 1498	len: 184	finds: 1	I Aab23948 Plasmid pGL17S4H om
GENESEQP2000S: AAB26773	ck: 8911	len: 180	finds: 1	I Aab26773 Rat preproglucagon
GENESEQP2000S: AAB26774	ck: 9748	len: 180	finds: 1	I Aab26774 Human preproglucagon
GENESEQP2000S: AAB26775	ck: 8864	len: 180	finds: 1	I Aab26775 Mutant human prepro
GENESEQP2000S: AAB26777	ck: 8646	len: 360	finds: 1	I Aab26777 Human growth hormon
GENESEQP2000S: AAB11889	ck: 7403	len: 31	finds: 1	I Aab11889 Shelf-stable glucag
GENESEQP2000S: AAY96846	ck: 1278	len: 127	finds: 1	I Aay96846 PCpb-QAR-V8-GLIP fu
GENESEQP2000S: AAY96847	ck: 3743	len: 128	finds: 1	I Aay96847 PCpb-LVPR-V8-GLIP f
GENESEQP2000S: AAY53277	ck: 7361	len: 31	finds: 1	I Aay53277 Glucagon-like peptid
GENESEQP2000S: AAY83149	ck: 7403	len: 31	finds: 1	I Aay83149 Glucagon-like peptid
GENESEQP2000S: AAY78950	ck: 7361	len: 31	finds: 1	I Aay78950 Glucagon-like peptid
GENESEQP2000S: AAY67372	ck: 7361	len: 31	finds: 1	I Aay67372 Glucagon-like peptid
GENESEQP2000S: AAY67374	ck: 2897	len: 37	finds: 1	I Aay67374 Glucagon-like peptid
GENESEQP2002S: ABG71251	ck: 2897	len: 37	finds: 1	I Abg71251 Human glucagon-like
GENESEQP2002S: ABG71253	ck: 7361	len: 31	finds: 1	I Abg71253 Human glucagon-like
GENESEQP2002S: AAE25338	ck: 7403	len: 31	finds: 1	I Aae25338 Human glucagon-like
GENESEQP2002S: AAE25339	ck: 7361	len: 31	finds: 1	I Aae25339 Human glucagon-like
GENESEQP2002S: AAO22093	ck: 7361	len: 31	finds: 1	I Aao22093 Glucagon-like peptid
GENESEQP2002S: ABB80094	ck: 2897	len: 37	finds: 1	I Abb80094 Glucagon like peptid
GENESEQP2002S: ABB80096	ck: 7361	len: 31	finds: 1	I Abb80096 Glucagon like peptid
GENESEQP2002S: ABB80861	ck: 7361	len: 31	finds: 1	I Abb80861 Human glucagon-like
GENESEQP2002S: ABB80862	ck: 7403	len: 31	finds: 1	I Abb80862 Glucagon-like peptid
GENESEQP2002S: AAU85972	ck: 7361	len: 31	finds: 1	I Aau85972 Modified human gluc
GENESEQP2002S: AAE17659	ck: 7361	len: 31	finds: 1	I Aae17659 Glucagon-like peptid
GENESEQP2002S: AAE17694	ck: 7403	len: 31	finds: 1	I Aae17694 Glucagon-like peptid
GENESEQP2002S: AAE14419	ck: 2897	len: 37	finds: 1	I Aae14419 Mammalian glucagon-
GENESEQP2002S: AAE14421	ck: 7361	len: 31	finds: 1	I Aae14421 Mammalian glucagon-
GENESEQP2002S: ABB07146	ck: 7361	len: 31	finds: 1	I Abb07146 Glucagon-like peptid
GENESEQP2002S: AAM50391	ck: 2897	len: 37	finds: 1	I Aam50391 Glucagon-like peptid
GENESEQP2002S: AAM50392	ck: 7361	len: 31	finds: 1	I Aam50392 Glucagon-like peptid
GENESEQP2001S: AAU07372	ck: 2897	len: 37	finds: 1	I Aau07372 Mammalian glucagon-
GENESEQP2001S: AAU07374	ck: 7361	len: 31	finds: 1	I Aau07374 Mammalian glucagon-
GENESEQP2001S: AAEO9251	ck: 7361	len: 31	finds: 1	I Aae09251 Human glucagon-like
GENESEQP2001S: AAEO9266	ck: 7373	len: 31	finds: 1	I Aae09266 Human DPP-IV proteo
GENESEQP2001S: AAEO9267	ck: 7403	len: 31	finds: 1	I Aae09267 Human glucagon-like
GENESEQP2001S: AAEO9278	ck: 7553	len: 31	finds: 1	I Aae09278 Human glucagon-like

\\End of list

GENESEQP2001S: AAG63268	ck: 7361	len: 31	finds: 1	I Aag63268 Amino acid sequ
GENESEQP2001S: AAG63272	ck: 7403	len: 31	finds: 1	I Aag63272 Glucagon-like f
GENESEQP2001S: AAG63280	ck: 7373	len: 31	finds: 1	I Aag63280 An insoluble gl
GENESEQP2001S: AAG63282	ck: 7403	len: 31	finds: 1	I Aag63282 An insoluble gl
GENESEQP2001S: AAG63302	ck: 7553	len: 31	finds: 1	I Aag63302 An insoluble gl
GENESEQP2001S: AAB82335	ck: 7361	len: 31	finds: 1	I Aab82335 Glucagon-like f
GENESEQP2001S: AAB91169	ck: 2897	len: 37	finds: 1	I Aab91169 Pancreatic horn
GENESEQP2001S: AAB30702	ck: 1397	len: 378	finds: 1	I Aab30702 A Bacillus pect
GENESEQP2001S: AAB30703	ck: 6043	len: 386	finds: 1	I Aab30703 A Bacillus pect
GENESEQP2001S: AAB49694	ck: 7361	len: 31	finds: 1	I Aab49694 Glucagon-like f
GENESEQP2001S: AAB49695	ck: 2897	len: 37	finds: 1	I Aab49695 Glucagon-like f
GENESEQP2001S: AAB60246	ck: 2897	len: 37	finds: 1	I Aab60246 Glucagon-like f
GENESEQP2001S: AAB60248	ck: 7361	len: 31	finds: 1	I Aab60248 Glucagon-like f
GENESEQP2001S: AAB48790	ck: 2897	len: 37	finds: 1	I Aab48790 Glucagon-like f
GENESEQP2001S: AAB48791	ck: 7361	len: 31	finds: 1	I Aab48791 Glucagon-like f
GENESEQP2001S: AAB36413	ck: 2897	len: 37	finds: 1	I Aab36413 Glucagon-like f
GENESEQP2001S: AAB36415	ck: 7361	len: 31	finds: 1	I Aab36415 Glucagon-like f
GENESEQP2001S: AAB36426	ck: 2897	len: 37	finds: 1	I Aab36426 Glucagon-like f
GENESEQP2001S: AAB36428	ck: 7361	len: 31	finds: 1	I Aab36428 Glucagon-like f
GENESEQP2001S: AAB85919	ck: 2897	len: 37	finds: 1	I Aab85919 Glucagon-like f
GENESEQP2001S: AAB85921	ck: 7361	len: 31	finds: 1	I Aab85921 Glucagon-like f
GENESEQP2003S: AAE32655	ck: 3731	len: 52	finds: 1	I Aae32655 GLP-1 (7-37)-h
GENESEQP2003S: AAE32943	ck: 3731	len: 52	finds: 1	I Aae32943 GLP-1 (7-37)-h
GENESEQP2003S: AAE30127	ck: 7361	len: 31	finds: 1	I Aae30127 Glucagon-like f
GENESEQP2003S: AAE30904	ck: 7361	len: 31	finds: 1	I Aae30904 Human glucagon-
GENESEQP2003S: AAE30916	ck: 9940	len: 616	finds: 1	I Aae30916 Val18-GLP-1-hum
GENESEQP2003S: AAE30917	ck: 1796	len: 631	finds: 1	I Aae30917 Val18-GLP-1-lin
GENESEQP2003S: AAE30921	ck: 1960	len: 264	finds: 1	I Aae30921 Val18-GLP-1-Imm
GENESEQP2003S: AAE30922	ck: 5244	len: 272	finds: 1	I Aae30922 Val18-GLP-1-CBX-
GENESEQP2003S: AAE30953	ck: 7403	len: 31	finds: 1	I Aae30953 Human GLP/exenc
GENESEQP2003S: AAE30954	ck: 7361	len: 31	finds: 1	I Aae30954 Human GLP/exenc
GENESEQP2003S: AAE31010	ck: 7403	len: 31	finds: 1	I Aae31010 Human GLP-1 ant
GENESEQP2003S: AAE31011	ck: 7373	len: 31	finds: 1	I Aae31011 Human GLP-1 ant
GENESEQP2003S: AAO19585	ck: 2897	len: 37	finds: 1	I Aae019585 Mammalian GLP-1
GENESEQP2003S: AAO19587	ck: 7361	len: 31	finds: 1	I Aae019587 Mammalian GLP-1

seq1-agen.name

Thu Jan 22 18:03:31 2004

Databases searched:
Geneseq-AA, Release 13.0, Released on 19Jun2003, Formatted on 15Jul2003

Total finds: 142
Total length: 158,726,570
Total sequences: 1,107,863
CPU time: 08:09.51

!!AA_SEQUENCE 1.0
ID AAP71072 standard; peptide; 31 AA.

XX AC AAP71072;

XX DT 25-MAR-2003 (updated)
XX DT 03-OCT-2002 (updated)
XX DT 02-MAY-1991 (first entry)

XX DE Insulinotropic peptide comprising GLP-1 residues 7-37.

XX KW insulinotropic; glucagon like peptide; GLP-1; diabetes mellitus.

XX OS Homo sapiens.

XX PN WO8706941-A.

XX PD 19-NOV-1987.

XX PF 05-MAY-1987; 87WO-7001005.

XX PR 05-MAY-1986; 86US-0859928.

XX PA (GEHO) GEN HOSPITAL CORP.

XX PI Habener J;

XX DR WPI; 1987-334950/47.

XX PT New peptide derivs. - increase insulin prodn. from beta islet
XX cells, comprise fragment of glucagon like peptide

XX PS Claim 1; Page 24; 35pp; English.

XX CC The mammalian hormone glucagon is produced as a precursor which is
XX subsequently cleaved to yield three peptides, one of which is GLP-1.
XX GLP-1 is itself processed in the pancreas and intestine from a 37
XX amino acid long peptide to a 31 residue peptide (7-37) having the
XX sequence given here. This insulinotropic hormone appears to act
XX specifically on pancreatic Beta cells and as such is useful for
XX enhancing insulin expression, eg for the treatment of diabetes
XX mellitus.
XX CC (Updated on 03-OCT-2002 to add missing OS field.)
XX CC (Updated on 25-MAR-2003 to correct PA field.)

XX SQ Sequence 31 AA;

AAP71072 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA_SEQUENCE 1.0

ID AAR07397 standard; peptide; 31 AA.

XX AC AAR07397;

XX DT 25-MAR-2003 (updated)
XX DT 29-JAN-1991 (first entry)

XX DE Glucagon-like peptide, GLP-1 (7-37).

XX KW Insulin; diabetes mellitus; insulinotropic; pancreatic beta cells.

XX OS Synthetic.

XX PN WO9011296-A.

XX PD 04-OCT-1990.

XX PF 20-MAR-1989; 89WO-US01121.

XX PR 02-FEB-1989; 89US-0305458.

XX

(GEHO) GEN HOSPITAL CORP.

XX PI Habener JF;

XX DR WPI; 1990-320226/42.

XX DT New glucagon-like peptide (GLP-1) - having insulin
XX formation-stimulating activity and useful in treating diabetes
XX mellitus.

XX PS Claim 6; Page 39; 52pp; English.

XX CC The peptide has insulinotropic activity specifically for pancreatic
XX beta cells. The peptide is derived from glucagon which, after
XX synthesis is cleaved into three peptides: glucagon, glucagon-like
XX peptide 1 (GLP-1) and GLP-2. GLP-1 has 37 AAs in its unprocessed
XX form and is unable to mediate the induction of insulin biosynthesis.
XX It is, however, naturally converted to a 31 AA-long peptide having
XX AAs 7-37 of GLP-1. Preferred derivs. have an H2 gp at the
XX N-terminal and an OH, OM, or NR'R'' gp at the C-terminal where M= a
XX cation or lower alkyl gp., and R' and R''= H or a lower alkyl gp.
XX Preps. contg. the peptide or derivs. are useful in the study of
XX the pathogenesis of maturity onset of diabetes mellitus and also in
XX therapy.

XX CC (Updated on 25-MAR-2003 to correct PR field.)
XX CC (Updated on 25-MAR-2003 to correct PA field.)

XX SQ Sequence 31 AA;

AAR07397 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA_SEQUENCE 1.0

ID AAR13420 standard; Protein; 31 AA.

XX AC AAR13420;

XX DT 29-OCT-1991 (first entry)

XX DE Glucagon-like peptide-1 (H7-GLP-1(7-37)).

XX KW Glucagon; insulin; diabetes; degradation; islet cells.

XX OS Synthetic.

XX FH Key Location/Qualifiers

XX FT Modified-site 1 /label= D-H, N-acetyl-H, N-isopropyl-H

XX PN WO9111457-A.

XX PD 08-AUG-1991.

XX PF 24-JAN-1991; 91WO-US00500.

XX PR 24-JAN-1990; 90US-0468736.

XX PA (BUCK/) BUCKLEY D I.

XX PI Buckley DI, Habener JF, Mallory JB, Mojsos B;

XX DR WPI; 1991-252609/34.

XX PT New glucagon-like peptide-1 (GLP-1) analogues - have increased
XX insulin-stimulating activity and/or resistance to degradation in
XX vivo

XX PS Claim 7; Page 37; 50pp; English.

XX CC The peptides represented in AAR13420-27 are more powerful than glucagon
XX in stimulating insulin release from islet cells and some of them are
XX also more resistant to degradation in the plasma. Doses are usually

CC 1 picog-1mg/kg, for the treatment of diabetes Type II.
CC The last three amino acids may sequentially be omitted.
XX
SQ Sequence 31 AA;
AAR13420 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
!!AA SEQUENCE 1.0
ID AAR13422 standard; Protein; 31 AA.
AC AAR13422;
XX
XX
DT 29-OCT-1991 (first entry)
XX
XX Glucagon-like peptide-1 (A)8-GLP-1(7-37).
DE
XX Glucagon; insulin; diabetes; degradation; islet cells.
XX
XX Synthetic.
OS
FH Key Location/Qualifiers
FT Modified-site 2 /label= D-Ala
XX
XX WO9111457-A.
XX
XX
PD 08-AUG-1991.
XX
XX 24-JAN-1991; 91WO-US00500.
XX
XX 24-JAN-1990; 90US-0468736.
XX
XX (BUCK/) BUCKLEY D I.
XX
XX Buckleley DI, Habener JF, Mallory JB, Mojsov S;
XX
XX WPI; 1991-252609/34.
XX
XX New glucagon-like peptide-1 (A)8-GLP-1(7-37).
PT insulin-stimulating activity and/or resistance to degradation in
XX vivo
XX
XX Claim 7; Page 37; 50pp; English.
XX
XX The peptides represented in AAR13420-27 are more powerful than glucagon
CC in stimulating insulin release from islet cells and some of them are
CC also more resistant to degradation in the plasma. Doses are usually
CC 1 picog-1mg/kg, for the treatment of diabetes Type II.
CC The last three amino acids may sequentially be omitted.
XX
XX
SQ Sequence 31 AA;
AAR13422 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
!!AA SEQUENCE 1.0
ID AAR13422 standard; Protein; 31 AA.
AC AAR13422;
XX
XX
DT 25-MAR-2003 (updated)
DT 26-APR-1994 (first entry)
XX
XX Glucagon-like peptide (GLP-1(7-37)).
DE
XX
XX Glucagon-like peptide; GLP; phospholipid;
KW diocanoyl-L-alpha-phosphatidylcholine; diabetes;
KW dilauroyl-L-alpha-phosphatidylcholine; insulinotropic agent.
XX
XX Synthetic.
OS
FH Key Location/Qualifiers
FT Misc-difference 31 /note= "Gly31 may be omitted, in which case the
FT C-terminal is amidated"
XX
XX WO9318785-A1.
XX
XX 30-SEP-1993.
XX
XX 18-MAR-1993; 93WO-DK00098.
XX
XX 19-MAR-1992; 92DK-0000364.
XX
XX (NOVO) NOVO-NORDISK AS.
XX
XX Kirk O, Pridal L;
XX
XX WPI; 1993-320450/40.
XX
XX Medicament for treatment of diabetes - contains glucagon-like
PT peptide and phospholipid for intranasal admin.
XX
XX Claim 1; Page 18; 24pp; English.
PS

FT
XX
XX WO9111457-A.
XX
XX 08-AUG-1991.
XX
XX 24-JAN-1991; 91WO-US00500.
XX
XX 24-JAN-1990; 90US-0468736.
XX
XX (BUCK/) BUCKLEY D I.
XX
XX Buckleley DI, Habener JF, Mallory JB, Mojsov S;
XX
XX WPI; 1991-252609/34.
XX
XX New glucagon-like peptide-1 (GLP-1) analogues - have increased
PT insulin-stimulating activity and/or resistance to degradation in
XX vivo
XX
XX Claim 7; Page 37; 50pp; English.
XX
XX The peptides represented in AAR13420-27 are more powerful than glucagon
CC in stimulating insulin release from islet cells and some of them are
CC also more resistant to degradation in the plasma. Doses are usually
CC 1 picog-1mg/kg, for the treatment of diabetes Type II.
CC The last three amino acids may sequentially be omitted.
XX
XX
SQ Sequence 31 AA;
AAR13423 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
!!AA SEQUENCE 1.0
ID AAR13423 standard; peptide; 31 AA.
AC AAR13423;
XX
XX
DT 25-MAR-2003 (updated)
DT 26-APR-1994 (first entry)
XX
XX Glucagon-like peptide (GLP-1(7-37)).
DE
XX
XX Glucagon-like peptide; GLP; phospholipid;
KW diocanoyl-L-alpha-phosphatidylcholine; diabetes;
KW dilauroyl-L-alpha-phosphatidylcholine; insulinotropic agent.
XX
XX Synthetic.
OS
FH Key Location/Qualifiers
FT Misc-difference 31 /note= "Gly31 may be omitted, in which case the
FT C-terminal is amidated"
XX
XX WO9318785-A1.
XX
XX 30-SEP-1993.
XX
XX 18-MAR-1993; 93WO-DK00098.
XX
XX 19-MAR-1992; 92DK-0000364.
XX
XX (NOVO) NOVO-NORDISK AS.
XX
XX Kirk O, Pridal L;
XX
XX WPI; 1993-320450/40.
XX
XX Medicament for treatment of diabetes - contains glucagon-like
PT peptide and phospholipid for intranasal admin.
XX
XX Claim 1; Page 18; 24pp; English.
PS

XX A medicament for intranasal admin. comprises this glucagon-like
 CC peptide (GLP) and a phospholipid, e.g. dioctanoyl-L-alpha-
 CC phosphatidylcholine, dilauroyl-L-alpha-phosphatidylcholine, etc.
 CC The medicament is used as an insulinotropic agent in the treatment
 CC of diabetes. It has a very favourable absorption profile: absorption
 CC is slightly protracted and a constant plasma concn. of GLP is provided
 CC over an extended period. In addn. the phospholipid exerts a
 CC stabilising effect on the peptide.
 CC (Updated on 25-MAR-2003 to correct PN field.)
 XX SQ Sequence 31 AA;
 AAR42668 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
 1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
 !!AA SEQUENCE 1.0
 ID AAR45432 standard; protein; 37 AA.
 XX AC AAR45432;
 XX DT 25-MAR-2003 (updated)
 XX DT 27-JUN-1994 (first entry)
 XX DE Glucagon-like peptide I derivative.
 XX Insulinotropic; activity; enhancing insulin activity; treatment;
 KW Type II diabetes.
 XX Synthetic.
 XX OS WO9325579-A1.
 XX PN 23-DEC-1993.
 XX PF 14-APR-1993; 93WO-US03388.
 XX PR 15-JUN-1992; 92US-0899073.
 XX (PFIZ) PFIZER INC.
 XX Andrews GC, Daumy GO, Francoeur ML, Larson ER;
 WPI; 1994-007457/01.
 XX New derivs. of glucagon-like peptide 1 and insulinotropin - used for
 PT enhancing insulin action in a mammal, partic. by iontophoretic admin.
 XX Claim 1; Page 19; 32pp; English.
 XX The sequence is that of a derivative of glucagon-like peptide I
 CC which has insulinotropic activity and is useful for enhancing
 CC insulin action in a mammal, partic. for treating Type II diabetes
 CC (claimed). It is partic. suited for delivery to a mammal by
 CC iontophoresis.
 CC (Updated on 25-MAR-2003 to correct PN field.)
 XX SQ Sequence 37 AA;
 AAR45432 Length: 37 January 22, 2004 18:02 Type: P Check: 2897 ..
 1 HDBFERHAEG TFTSDVSSYL EGQAKEFIA WLKVRG
 !!AA SEQUENCE 1.0
 ID AAR45434 standard; protein; 31 AA.
 XX AC AAR45434;
 XX DT 25-MAR-2003 (updated)
 XX DT 27-JUN-1994 (first entry)
 XX DE Insulinotropin derivative.

XX Insulinotropic; activity; enhancing insulin activity; treatment;
 KW Type II diabetes.
 XX Synthetic.
 XX OS WO9325579-A1.
 XX PN 23-DEC-1993.
 XX PF 14-APR-1993; 93WO-US03388.
 XX PR 15-JUN-1992; 92US-0899073.
 XX (PFIZ) PFIZER INC.
 XX Andrews GC, Daumy GO, Francoeur ML, Larson ER;
 WPI; 1994-007457/01.
 XX New derivs. of glucagon-like peptide 1 and insulinotropin - used for
 PT enhancing insulin action in a mammal, partic. by iontophoretic admin.
 XX Claim 3; Page 20; 32pp; English.
 XX The sequence is that of a derivative of insulinotropin which
 CC has insulinotropic activity and is useful for enhancing insulin
 CC action in a mammal, partic. for treating Type II diabetes
 CC (claimed). It is partic. suited for delivery to a mammal by
 CC iontophoresis.
 CC (Updated on 25-MAR-2003 to correct PN field.)
 XX SQ Sequence 31 AA;
 AAR45434 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
 1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
 !!AA SEQUENCE 1.0
 ID AAR63245 standard; peptide; 37 AA.
 XX AC AAR63245;
 XX DT 25-MAR-2003 (updated)
 XX DT 01-MAY-1995 (first entry)
 XX DE Glucagon-like peptide 1 (GLP-1) for use in treating NIDDM;
 XX insulinotropic activity; GLP-1; glucagon-like protein 1; NIDDM;
 KW non-insulin dependent diabetes mellitus; insulinotropin;
 XX Synthetic.
 XX OS EP619322-A2.
 XX PN 12-OCT-1994.
 XX PD 10-FEB-1994; 94EP-0300981.
 XX PF 07-APR-1993; 93US-0044133.
 XX (PFIZ) PFIZER INC.
 XX PA (SCIO-) SCIOS INC.
 XX Danley DE, Gelfand RA, Geoghegan KF, Kim Y, Lambert WJ;
 PI Qi H, Oih, Hong Q, Yesook K;
 XX WPI; 1994-311774/39.
 XX Treatment of non-insulin dependent diabetes mellitus - using a
 PT glucagon-like peptide 1 or deriv. with prolonged action for
 PT sustained glycaemic control

PS Claim 2; Page 46; 70pp; English.

XX This peptide is glucagon-like peptide 1 (GLP-1). GLP-1 and its deriv.s are useful in the treatment of Non-Insulin Dependent Diabetes Mellitus (NIDDM). During processing in the pancreas and intestine, GLP-1 is converted to a 31 amino acid peptide having amino acids 7-37 of GLP-1 (AAR63245), alternatively referred to as insulinotropin. GLP-1(7-37) has insulinotropic activity, ie. it is able to stimulate, or cause to be stimulated, the synthesis of the hormone insulin. Other derivs. are shown in AAR63246-51. It has been discovered that prolonged plasma elevations of GLP-1, and related polypeptides, are necessary during the meal and beyond to achieve sustained glycemic control in patients with NIDDM. The invention provides a compsn. that has prolonged action after each administration.

CC (Updated on 25-MAR-2003 to correct PN field.)

CC (Updated on 25-MAR-2003 to correct PA field.)

XX

SQ Sequence 37 AA;

AAR63245 Length: 37 January 22, 2004 18:02 Type: P Check: 2897

1 HDEFERHAEG TPTSDVSSYL EGQAQEFIA WLKVRG

11AA_SEQUENCE 1.0

ID AAR63246 standard; peptide; 31 AA.

XX

AC AAR63246;

XX

25-MAR-2003 (updated)

DT 02-MAY-1995 (first entry)

XX

DE Insulinotropin (GLP-1(7-37)) for use in treating NIDDM.

XX

KW insulinotropic activity; GLP-1; glucagon-like protein 1; NIDDM;

KW non-insulin dependent diabetes mellitus; insulinotropin.

XX

OS Synthetic.

XX

PN EP619322-A2.

XX

PD 12-OCT-1994.

XX

PF 10-FEB-1994; 94EP-0300981.

XX

PR 07-APR-1993; 93US-0044133.

XX

(PFIZ) PFIZER INC.

PA (SCIO-) SCIOS INC.

XX

PI Danley DE, Gelfand RA, Geoghegan KF, Kim Y, Lambert WJ;

PI Qi H, Oih, Hong Q, Yesook K;

XX

DR WPI; 1994-311774/39.

XX

XX Treatment of non-insulin dependent diabetes mellitus - using a glucagon-like peptide 1 or deriv. with prolonged action for sustained glycaemic control

PS Claim 2; Page 46; 70pp; English.

XX

CC This peptide is GLP-1(7-37) [GLP = glucagon-like peptide]. GLP-1 and its deriv.s are useful in the treatment of Non-Insulin Dependent Diabetes Mellitus (NIDDM). During processing in the pancreas and intestine, GLP-1 (AAR63245) is converted to a 31 amino acid peptide having amino acids 7-37 of GLP-1, alternatively referred to as insulinotropin. GLP-1(7-37) has insulinotropic activity, ie. it is able to stimulate, or cause to be stimulated, the synthesis of the hormone insulin. Other derivs. are shown in AAR63247-51. It has been discovered that prolonged plasma elevations of GLP-1, and related polypeptides, are necessary during the meal and beyond to achieve sustained glycemic control in patients with NIDDM. The invention provides a compsn. that has prolonged action after each administration.

CC (Updated on 25-MAR-2003 to correct PN field.)

CC (Updated on 25-MAR-2003 to correct PA field.)

SQ Sequence 31 AA;

AAR63246 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGFTSDV SSVLEGQAQAK EPTIAMLVKGR G

11AA_SEQUENCE 1.0

ID AAR75885 standard; peptide; 31 AA.

XX

AC AAR75885;

XX

DT 08-FEB-1996 (first entry)

XX

DE Glucagon like peptide-1(7-36), (7-36)amide and (7-37)

XX

KW Glucagon like peptide-1; GLP-1; (7-36); (7-36)amide; (7-37); type 2 diabetes; treatment.

XX

OS Synthetic.

XX

PH Key

FT Modified-site 36

FT Misc-difference 37

FT /note= "may be amidated when Gly 31 is absent"

FT /note= "may be absent"

XX

PN W09517510-A1.

XX

PD 29-JUN-1995.

XX

PF 22-DEC-1994; 94WO-DK00487.

XX

PR 23-DEC-1993; 93DK-0001440.

XX

PA (NOVO) NOVO-NORDISK AS.

XX

PI Bjorn SE, Rasmussen JS, Thim L;

XX

DR WPI; 1995-240671/31.

XX

PT Prodn. of glucagon-like peptide-1 (7-36) - using transformed bacteria contg. 2 or more consecutive DNA sequences coding for GLP-1 (7-36)

XX

PS Claim 1; Page 1; 27pp; English.

XX

CC AAR75885 is the glucagon like peptide-1 (GLP-1) amino acids 7-36, the featured deriva. GLP-1(7-36)amide and GLP-1(7-37) are also given in the claims. The peptide and its derivs. can be used for the treatment of type 2 diabetes.

XX

SQ Sequence 31 AA;

AAR75885 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGFTSDV SSVLEGQAQAK EPTIAMLVKGR G

11AA_SEQUENCE 1.0

ID AAR69065 standard; peptide; 31 AA.

XX

AC AAR69065;

XX

DT 25-MAR-2003 (updated)

DT 23-AUG-1995 (first entry)

XX

DE Glucagon like peptide 1 (GLP1) (7-36)-Gly.

XX

KW Glucagon like Peptide; GLP; transpeptidation; endopeptidase; trypsin; thrombin; cleavage.

XX

OS Synthetic.
XX WO9503405-A2.
XX PD 02-FEB-1995.
XX PF 19-JUL-1994; 94WO-US08125.
XX PR 20-JUL-1993; 93US-0095162.
XX PA (BION-) BIONEERASKA INC.
XX PI Henriksen D, Manning S, Partridge B, Stout J, Wagner FW;
XX WPI; 1995-075233/10.
XX DR Transpeptidation of recombinant polypeptides - using
XX PT endopeptidase such as trypsin or thrombin to modify C-terminal
XX residue.
XX PS Claim 34; Page 13; 69pp; English.
XX CC The naturally occurring sequence of Glucagon Like Peptide 1 (GLP1)
CC is AAR69072. It is a 36 AA peptide that has been recombinantly
CC produced but without a mechanism for providing for the amidation of
CC the C-terminal Arg residue. Amidated recombinant GLP1 (7-36)NH2
CC (AAR69063) was prep'd. from a multicopy fusion protein contg. four
CC copies of a modified truncated GLP peptide having AA residues 7-34
CC of the native polypeptide and the terminal AA residues A-F-A at
CC residues 35-37 (GLP1 (7-34)-A-F-A) (AAR69064). The recombinant GLP1 (7-
CC 34)-A-F-A can be transpeptidated to yield the modified recombinant
CC native GLP1 (7-36)-NH2 (AAR69063) as follows. Trypsin was used to
CC cleave the peptide at the Lys-Ala bond in the presence of either
CC Gly-Arg-NH2 or Gly-Arg-Gly addition units so that the cleavage of
CC the Ala-Phe-Arg leaving unit is followed by the addition of
CC Gly-Arg-NH2 or Gly-Arg-Gly to the core GLP1 (7-34) to yield either
CC amidated 7-36 GLP1-NH2 or GLP1 7-36 with a terminal Gly (AAR69065).
CC (Updated on 25-MAR-2003 to correct PN field.)
XX Sequence 31 AA;
AAR69065 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
1 HAEGTFTSDV SSYLEGQAAK EFTAWLVKGR G
!!AA_SEQUENCE 1.0
ID AAR69076 standard; peptide; 37 AA.
XX AC AAR69076;
XX DT 25-MAR-2003 (updated)
XX DT 23-AUG-1995 (first entry)
XX DE Glucagon like peptide 1 (GLP1) (1-37).
XX KW Glucagon Like Peptide; GLP; transpeptidation; endopeptidase;
XX KW trypsin; thrombin; cleavage.
XX OS Synthetic.
XX PN WO9503405-A2.
XX PD 02-FEB-1995.
XX PF 19-JUL-1994; 94WO-US08125.
XX PR 20-JUL-1993; 93US-0095162.
XX PA (BION-) BIONEERASKA INC.
XX PI Henriksen D, Manning S, Partridge B, Stout J, Wagner FW;
XX WPI; 1995-075233/10.
XX DR

XX Transpeptidation of recombinant polypeptides - using
XX PT endopeptidase such as trypsin or thrombin to modify C-terminal
XX residue.
XX PS Example; Page 59; 69pp; English.
XX CC The naturally occurring sequence of Glucagon Like Peptide 1 (GLP1)
CC is AAR69072. AAR69076 does not seem to be referred to in the patent
CC application. It is described in the sequence listings as GLP
CC (1-37).
CC (Updated on 25-MAR-2003 to correct PN field.)
XX Sequence 37 AA;
AAR69076 Length: 37 January 22, 2004 18:02 Type: P Check: 2897 ..
1 HDEPERHAEG TPTSDVSSYL EQQAAKEFIA WLKVGKG
!!AA_SEQUENCE 1.0
ID AAW03851 standard; peptide; 31 AA.
XX AC AAW03851;
XX DT 25-MAR-2003 (updated)
XX DT 14-APR-1997 (first entry)
XX DE Glucagon like peptide 1 (7-37) analogue D-His7.
XX KW Human; glucagon like peptide; GLP-1; analogue; stimulation;
XX KW pancreas; insulin; islet cell; treatment; type II diabetes;
XX KW degradation; resistant.
XX OS Homo sapiens.
XX PH Key Location/Qualifiers
XX FT Misc-difference 1 /note= "D-form residue"
XX PN US5545618-A.
XX PD 13-AUG-1996.
XX PF 10-DEC-1993; 93US-0165516.
XX PR 20-SEP-1991; 91US-0762768.
XX PR 24-JAN-1990; 90US-0468736.
XX PR 10-DEC-1993; 93US-0165516.
XX PA (BUCKLEY) BUCKLEY D I.
XX PA (HABER) HABENER J F.
XX PA (MALLORY) MALLORY J B.
XX PA (MOJISOV) MOJISOV S.
XX PI Buckley DI, Habener JF, Mallory JB, Mojsov S;
XX WPI; 1996-383697/38.
XX PT New modified glucagon-like peptide I fragments - have higher
XX PT activity than glucagon or have improved plasma stability, useful for
XX PT treating type II diabetes
XX PS Claim 14; page -; 16pp; English.
XX CC The present peptide is a human glucagon like peptide 1 (GLP-1)
XX CC analogue, which is useful for stimulating insulin release from
XX CC pancreatic islet cells, especially in the treatment of type II
XX CC diabetes at doses of 1 pg/kg to 1 mg/kg. This peptide has better
XX CC resistance to degradation in plasma than GLP-1(7-37), and has a
XX CC higher activity than glucagon, as exemplified by the results of an
XX CC adenylylate cyclase assay where the peptide had an ED50 of 1.1 nM,
XX CC compared to 0.16 nM for GLP-1(7-37) and 80 nM for glucagon.
XX CC (Updated on 25-MAR-2003 to correct PF field.)

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XX SQ Sequence 31 AA;
AAW03851 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!IAA SEQUENCE 1.0
ID _AAW03907 standard; peptide; 31 AA.
XX AC AAW03907;
XX DT 25-MAR-2003 (updated)
XX DT 15-APR-1997 (first entry)
XX DE Glucagon like peptide 1 (7-37) analogue D-Lys34.
XX KW Human; glucagon like peptide; GLP-1; analogue; stimulation;
XX KW pancreas; insulin; islet cell; treatment; type II diabetes.
XX OS Homo sapiens.
XX FH Key Location/Qualifiers
FT Misc-difference 28 /note= "D-form residue"
FT Misc-difference 29 /note= "optionally absent when Arg30 and Gly31 are
FT absent"
FT Misc-difference 30 /note= "optionally absent when Gly31 is absent"
FT Misc-difference 31 /note= "optionally absent"
FT US5545618-A.
PN
XX DT 13-AUG-1996.
XX PF 10-DEC-1993; 93US-0165516.
XX PR 20-SEP-1991; 91US-0762768.
XX PR 24-JAN-1990; 90US-0468736.
XX PR 10-DEC-1993; 93US-0165516.
XX PA (BUCK/) BUCKLEY D I.
XX PA (HABE/) HABENER J F.
XX PA (MALL/) MALLORY J B.
XX PA (MOJS/) MOJSOV S.
XX PI Buckley DI, Habener JF, Mallory JB, Mojsov S;
XX WPI; 1996-383697/38.
XX DR
XX PT New modified glucagon-like peptide I fragments - have higher
XX PT activity than glucagon or have improved plasma stability, useful for
XX PT treating type II diabetes
XX PS Example 1; page -: 16pp; English.
XX CC The present peptide is a specific example of a claimed human
XX CC glucagon like peptide 1 (GLP-1) analogue, which is useful for
XX CC stimulating insulin release from pancreatic islet cells, especially
XX CC in the treatment of type II diabetes at doses of 1 pg/kg to
XX CC 1 mg/kg.
XX CC (Updated on 25-MAR-2003 to correct PF field.)
XX SQ Sequence 31 AA;
XX DT 25-MAR-2003 (updated)
XX DT 15-APR-1997 (first entry)
XX DE Glucagon like peptide 1 (7-37) analogue D-Lys34.
XX KW Human; glucagon like peptide; GLP-1; analogue; stimulation;
XX KW pancreas; insulin; islet cell; treatment; type II diabetes.
XX OS Homo sapiens.
XX FH Key Location/Qualifiers
FT Misc-difference 28 /note= "D-form residue"
FT Misc-difference 29 /note= "optionally absent when Arg30 and Gly31 are
FT absent"
FT Misc-difference 30 /note= "optionally absent when Gly31 is absent"
FT Misc-difference 31 /note= "optionally absent"
FT US5545618-A.
PN
XX DT 13-AUG-1996.
XX PF 10-DEC-1993; 93US-0165516.
XX PR 20-SEP-1991; 91US-0762768.
XX PR 24-JAN-1990; 90US-0468736.
XX PR 10-DEC-1993; 93US-0165516.
XX PA (BUCK/) BUCKLEY D I.
XX PA (HABE/) HABENER J F.
XX PA (MALL/) MALLORY J B.
XX PA (MOJS/) MOJSOV S.
XX PI Buckley DI, Habener JF, Mallory JB, Mojsov S;
XX WPI; 1996-383697/38.
XX DR
XX PT New modified glucagon-like peptide I fragments - have higher
XX PT activity than glucagon or have improved plasma stability, useful for
XX PT treating type II diabetes
XX PS Example 1; page -: 16pp; English.
XX CC The present peptide is a specific example of a claimed human
XX CC glucagon like peptide 1 (GLP-1) analogue, which is useful for
XX CC stimulating insulin release from pancreatic islet cells, especially
XX CC in the treatment of type II diabetes at doses of 1 pg/kg to
XX CC 1 mg/kg.
XX CC (Updated on 25-MAR-2003 to correct PF field.)
XX SQ Sequence 31 AA;
AAW03907 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!IAA SEQUENCE 1.0
ID _AAW03929 standard; peptide; 31 AA.

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XX AAW03929;
XX AC
XX DT 25-MAR-2003 (updated)
XX DT 15-APR-1997 (first entry)
XX DE Glucagon like peptide 1 (7-37) analogue D-Arg36.
XX KW Human; glucagon like peptide; GLP-1; analogue; stimulation;
XX KW pancreas; insulin; islet cell; treatment; type II diabetes.
XX OS Homo sapiens.
XX FH Key Location/Qualifiers
FT Misc-difference 30 /note= "D-form residue"
FT Misc-difference 29 /note= "optionally absent when Arg30 and Gly31 are
FT absent"
FT Misc-difference 30 /note= "optionally absent when Gly31 is absent"
FT Misc-difference 31 /note= "optionally absent"
FT US5545618-A.
PN
XX DT 13-AUG-1996.
XX PF 10-DEC-1993; 93US-0165516.
XX PR 20-SEP-1991; 91US-0762768.
XX PR 24-JAN-1990; 90US-0468736.
XX PR 10-DEC-1993; 93US-0165516.
XX PA (BUCK/) BUCKLEY D I.
XX PA (HABE/) HABENER J F.
XX PA (MALL/) MALLORY J B.
XX PA (MOJS/) MOJSOV S.
XX PI Buckley DI, Habener JF, Mallory JB, Mojsov S;
XX WPI; 1996-383697/38.
XX DR
XX PT New modified glucagon-like peptide I fragments - have higher
XX PT activity than glucagon or have improved plasma stability, useful for
XX PT treating type II diabetes
XX PS Example 1; page -: 16pp; English.
XX CC The present peptide is a specific example of a claimed human
XX CC glucagon like peptide 1 (GLP-1) analogue, which is useful for
XX CC stimulating insulin release from pancreatic islet cells, especially
XX CC in the treatment of type II diabetes at doses of 1 pg/kg to
XX CC 1 mg/kg.
XX CC (Updated on 25-MAR-2003 to correct PF field.)
XX SQ Sequence 31 AA;
AAW03929 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!IAA SEQUENCE 1.0
ID _AAW03899 standard; peptide; 31 AA.
XX AC AAW03899;
XX DT 25-MAR-2003 (updated)
XX DT 15-APR-1997 (first entry)
XX DE Glucagon like peptide 1 (7-37) analogue D-Lys26.
XX KW Human; glucagon like peptide; GLP-1; analogue; stimulation;

```

KW	pancreas; insulin; islet cell; treatment; type II diabetes.
XX	
OS	Homo sapiens.
XX	
PFH	Key Location/Qualifiers
FT	Misc-difference 20 /note= "D-form residue"
FT	Misc-difference 29 /note= "optionally absent when Arg30 and Gly31 are absent"
FT	
FT	Misc-difference 30 /note= "optionally absent when Gly31 is absent"
FT	Misc-difference 31 /note= "optionally absent"
FT	
XX	US5545618-A.
PN	
XX	13-AUG-1996.
PD	
XX	10-DEC-1993; 93US-0165516.
XX	20-SEP-1991; 91US-0762768.
PR	24-JAN-1990; 90US-0468736.
PR	10-DEC-1993; 93US-0165516.
XX	(BUCK/) BUCKLEY D I.
PPA	(HABE/) HABENER J F.
PPA	(MALL/) MALLORY J B.
PPA	(MOJS/) MOJSOV S.
XX	
XX	Buckley DI, Habener JF, Mallory JB, Mojsov S;
PI	WPI; 1996-383697/38.
XX	
PPT	New modified glucagon-like peptide I fragments - have higher
PPT	activity than glucagon or have improved plasma stability, useful for
PPT	treating type II diabetes
XX	
XX	Example 1; page -; 16pp; English.
XX	
CC	The present peptide is a specific example of a claimed human
CC	glucagon like peptide 1 (GLP-1) analogue, which is useful for
CC	stimulating insulin release from pancreatic islet cells, especially
CC	in the treatment of type II diabetes at doses of 1 pg/kg to
CC	1 mg/kg.
CC	(Updated on 25-MAR-2003 to correct PF field.)
XX	
XX	Sequence 31 AA;
SQ	
AAW03899	Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
1	HAEGFTSDV SSYLEGOAAK EFIAVLVKGR G
111AA_SEQUENCE 1.0	
ID	AAW03865 standard; peptide; 31 AA.
XX	
XX	AAW03865;
XX	
AC	
XX	
DT	25-MAR-2003 (updated)
DT	15-APR-1997 (first entry)
XX	
XX	Glucagon like peptide 1 (7-37) analogue N-formyl- (D-His/L-His7) .
DE	
XX	Human; glucagon like peptide; GLP-1; analogue; stimulation;
KW	pancreas; insulin; islet cell; treatment; type II diabetes.
XX	
XX	Homo sapiens.
OS	
XX	
Key	Location/Qualifiers
FT	Modified-site 1 /note= "N-formyl- (D/L)-histidine"
FT	Misc-difference 29 /note= "optionally absent when Arg30 and Gly31 are
FT	

FT	Misc-difference 30	absent
FT	FT	/note= "optionally absent when Gly31 is absent"
FT	Misc-difference 31	
FT	FT	/note= "optionally absent"
FT	FT	
FN	US5545618-A.	
XX	13-AUG-1996.	
XX	10-DEC-1993;	93US-0165516.
XX	20-SEP-1991;	91US-0762768.
PR	24-JAN-1990;	90US-0468736.
PR	10-DEC-1993;	93US-0165516.
XX	(BUCKLEY D I.	
XX	(HABER J F.	
PA	(MALLORY J B.	
PA	(MOJS) MOJSOV S.	
XX	Buckley DI, Habener JF, Mallory JB, Mojssov S;	
XX	WPI, 1996-383697/38.	
XX	New modified glucagon-like peptide I fragments - have higher	
PT	activity than glucagon or have improved plasma stability, useful for	
PT	treating type II diabetes	
PT	Example 1; page -; 16pp; English.	
PS	The present peptide is a specific example of a claimed human	
XX	glucagon like peptide 1 (GLP-1) analogue, which is useful for	
CC	stimulating insulin release from pancreatic islet cells, especially	
CC	in the treatment of type II diabetes at doses of 1 pg/kg to	
CC	1 mg/kg.	
CC	(Updated on 25-MAR-2003 to correct PP field.)	
XX	Sequence 31 AA;	
XX	AAW03865 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..	
1	HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G	
1	IAA SEQUENCE 1.0	
ID	AAW03866 standard; peptide; 31 AA.	
XX	AC AAW03866;	
XX	25-MAR-2003 (updated)	
DT	15-APR-1997 (first entry)	
DT	Glucagon like peptide 1 (7-37) analogue N-acetyl-D-His7.	
XX	Human; glucagon like peptide; GLP-1; analogue; stimulation;	
XX	pancreas; insulin; islet cell; treatment; type II diabetes.	
XX	Homo sapiens.	
XX	OS	
XX	Key Location/Qualifiers	
FT	Modified-site 1	
FT	/note= "N-acetyl-D-histidine"	
FT	Misc-difference 29	
FT	/note= "optionally absent when Arg30 and Gly31 are	
FT	absent"	
FT	Misc-difference 30	
FT	/note= "optionally absent when Gly31 is absent"	
FT	Misc-difference 31	
FT	/note= "optionally absent"	
XX	US5545618-A.	
XX	13-AUG-1996.	
XX	DD	

XX PF 10-DEC-1993; 93US-0165516.
XX PR 20-SEP-1991; 91US-0762768.
XX PR 24-JAN-1990; 90US-0468736.
XX PR 10-DEC-1993; 93US-0165516.
XX PA (BUCK/) BUCKLEY D I.
XX PA (HABE/) HABENER J F.
XX PA (MALL/) MALLORY J B.
XX PA (MOUS/) MOUSOV S.
XX PI Buckley DI, Habener JF, Mallory JB, Mojsov S;
XX WPI; 1996-383697/38.
XX New modified glucagon-like peptide I fragments - have higher
PT activity than glucagon or have improved plasma stability, useful for
PT treating type II diabetes
XX Example 1; page -; 16pp; English.
XX The present peptide is a specific example of a claimed human
CC glucagon like peptide 1 (GLP-1) analogue, which is useful for
CC stimulating insulin release from pancreatic islet cells, especially
CC in the treatment of type II diabetes at doses of 1 pg/kg to
CC 1 mg/kg.
CC (Updated on 25-MAR-2003 to correct PF field.)
XX Sequence 31 AA;
XX AAW03866 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
!!AA_SEQUENCE 1.0
ID AAW03867 standard; peptide; 31 AA.
XX AC AAW03867;
XX 25-MAR-2003 (updated)
DT 15-APR-1997 (first entry)
XX Glucagon like peptide 1 (7-37) analogue N-isopropyl-D-His7.
XX Human; glucagon like peptide; GLP-1; analogue; stimulation;
KW pancreas; insulin; islet cell; treatment; type II diabetes.
XX Homo sapiens.
XX Key Location/Qualifiers
FH Modified-site 1
FT /note= "N-isopropyl-D-histidine"
FT Misc-difference 29 /note= "optionally absent when Arg30 and Gly31 are
FT FT absent"
FT Misc-difference 30 /note= "optionally absent when Gly31 is absent"
FT FT Misc-difference 31 /note= "optionally absent"
XX US5545618-A.
XX 13-AUG-1996.
XX 10-DEC-1993; 93US-0165516.
XX 20-SEP-1991; 91US-0762768.
XX 24-JAN-1990; 90US-0468736.
XX 10-DEC-1993; 93US-0165516.
XX (BUCK/) BUCKLEY D I.
XX (HABE/) HABENER J F.
XX PA (MALL/) MALLORY J B.
XX PA (MOUS/) MOUSOV S.
XX PI Buckley DI, Habener JF, Mallory JB, Mojsov S;
XX WPI; 1996-383697/38.
XX New modified glucagon-like peptide I fragments - have higher
PT activity than glucagon or have improved plasma stability, useful for
PT treating type II diabetes
XX Example 1; page -; 16pp; English.
XX The present peptide is a specific example of a claimed human
CC glucagon like peptide 1 (GLP-1) analogue, which is useful for
CC stimulating insulin release from pancreatic islet cells, especially
CC in the treatment of type II diabetes at doses of 1 pg/kg to
CC 1 mg/kg.
CC (Updated on 25-MAR-2003 to correct PF field.)
XX Sequence 31 AA;
XX AAW03867 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
!!AA_SEQUENCE 1.0
ID AAW03867 standard; peptide; 31 AA.
XX AC AAW03867;
XX 25-MAR-2003 (updated)
DT 15-APR-1997 (first entry)
XX Glucagon like peptide 1 (7-37) analogue N-isopropyl-D-His7.
XX Human; glucagon like peptide; GLP-1; analogue; stimulation;
KW pancreas; insulin; islet cell; treatment; type II diabetes.
XX Homo sapiens.
XX Key Location/Qualifiers
FH Modified-site 1
FT /note= "N-isopropyl-D-histidine"
FT Misc-difference 29 /note= "optionally absent when Arg30 and Gly31 are
FT FT absent"
FT Misc-difference 30 /note= "optionally absent when Gly31 is absent"
FT FT Misc-difference 31 /note= "optionally absent"
XX US5545618-A.
XX 13-AUG-1996.
XX 10-DEC-1993; 93US-0165516.
XX 20-SEP-1991; 91US-0762768.
XX 24-JAN-1990; 90US-0468736.
XX 10-DEC-1993; 93US-0165516.
XX (BUCK/) BUCKLEY D I.
XX (HABE/) HABENER J F.
XX PA (MALL/) MALLORY J B.
XX PA (MOUS/) MOUSOV S.
XX PI Buckley DI, Habener JF, Mallory JB, Mojsov S;
XX WPI; 1996-383697/38.
XX New modified glucagon-like peptide I fragments - have higher
PT activity than glucagon or have improved plasma stability, useful for
PT treating type II diabetes
XX Example 1; page -; 16pp; English.
XX The present peptide is a specific example of a claimed human
CC glucagon like peptide 1 (GLP-1) analogue, which is useful for
CC stimulating insulin release from pancreatic islet cells, especially
CC in the treatment of type II diabetes at doses of 1 pg/kg to
CC 1 mg/kg.
CC (Updated on 25-MAR-2003 to correct PF field.)
XX Sequence 31 AA;
XX AAW03867 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
!!AA_SEQUENCE 1.0
ID AAW03867 standard; peptide; 31 AA.
XX AC AAW03867;
XX 25-MAR-2003 (updated)
DT 15-APR-1997 (first entry)
XX Glucagon like peptide 1 (7-37) analogue N-isopropyl-D-His7.
XX Human; glucagon like peptide; GLP-1; analogue; stimulation;
KW pancreas; insulin; islet cell; treatment; type II diabetes;
XX Homo sapiens.
XX Key Location/Qualifiers
FH Modified-site 1
FT /note= "N-isopropyl-histidine, or
FT N-acetyl-histidine"
FT US5545618-A.
XX 13-AUG-1996.
XX 10-DEC-1993; 93US-0165516.
XX 20-SEP-1991; 91US-0762768.
XX 24-JAN-1990; 90US-0468736.
XX 10-DEC-1993; 93US-0165516.
XX (BUCK/) BUCKLEY D I.
XX (HABE/) HABENER J F.
XX PA (MALL/) MALLORY J B.
XX PA (MOUS/) MOUSOV S.
XX PI Buckley DI, Habener JF, Mallory JB, Mojsov S;
XX WPI; 1996-383697/38.
XX New modified glucagon-like peptide I fragments - have higher
PT activity than glucagon or have improved plasma stability, useful for
PT treating type II diabetes
XX Example 1; page -; 16pp; English.
XX The present peptide is a human glucagon like peptide 1 (GLP-1)

PA (MALL/) MALLORY J B.
PA (MOJS/) MOJSOV S.
PI Buckley DI, Habener JF, Mallory JB, Mojsov S;
XX WPI; 1996-383697/38.
XX New modified glucagon-like peptide I fragments - have higher
PT activity than glucagon or have improved plasma stability, useful for
PT treating type II diabetes
XX Example 1; page -; 16pp; English.
XX The present peptide is a specific example of a claimed human
CC glucagon like peptide 1 (GLP-1) analogue, which is useful for
CC stimulating insulin release from pancreatic islet cells, especially
CC in the treatment of type II diabetes at doses of 1 pg/kg to
CC 1 mg/kg.
CC (Updated on 25-MAR-2003 to correct PF field.)
XX Sequence 31 AA;
XX AAW03867 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
!!AA_SEQUENCE 1.0
ID AAW03853 standard; peptide; 31 AA.
XX AC AAW03853;
XX 25-MAR-2003 (updated)
DT 14-APR-1997 (first entry)
XX Glucagon like peptide 1 (7-37) analogue N-isopropyl-N-acetyl His7.
XX Human; glucagon like peptide; GLP-1; analogue; stimulation;
KW pancreas; insulin; islet cell; treatment; type II diabetes;
XX degradation; resistant.
XX Homo sapiens.
XX Key Location/Qualifiers
FH Modified-site 1
FT /note= "N-isopropyl-histidine, or
FT N-acetyl-histidine"
FT US5545618-A.
XX 13-AUG-1996.
XX 10-DEC-1993; 93US-0165516.
XX 20-SEP-1991; 91US-0762768.
XX 24-JAN-1990; 90US-0468736.
XX 10-DEC-1993; 93US-0165516.
XX (BUCK/) BUCKLEY D I.
XX (HABE/) HABENER J F.
XX PA (MALL/) MALLORY J B.
XX PA (MOUS/) MOJSOV S.
XX PI Buckley DI, Habener JF, Mallory JB, Mojsov S;
XX WPI; 1996-383697/38.
XX New modified glucagon-like peptide I fragments - have higher
PT activity than glucagon or have improved plasma stability, useful for
PT treating type II diabetes
XX Claim 14; page -; 16pp; English.
XX The present peptide is a human glucagon like peptide 1 (GLP-1)

AAW03854 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

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KW pancreas; insulin; islet cell; treatment; type II diabetes.
 XX Homo sapiens.
 XX Key Location/Qualifiers
 FT Misc-difference 2 /notes= "wild type Ala substituted with Gly"
 FT Misc-difference 29 /notes= "optionally absent when Arg30 and Gly31 are absent"
 FT Misc-difference 30 /notes= "optionally absent when Gly31 is absent"
 FT Misc-difference 31 /notes= "optionally absent"
 FT US5545618-A.
 PN 13-AUG-1996.
 XX 10-DEC-1993; 93US-0165516.
 XX 20-SEP-1991; 91US-0762768.
 PR 24-JAN-1990; 90US-0468736.
 PR 10-DEC-1993; 93US-0165516.
 XX (BUCK/) BUCKLEY D I.
 PA (HABE/) HABENER J F.
 PA (MALL/) MALLORY J B.
 PA (MOUS/) MOUSOV S.
 XX Buckley DI, Habener JF, Mallory JB, Mojsov S;
 PI WPI; 1996-303697/38.
 DR New modified glucagon-like peptide I fragments - have higher
 XX activity than glucagon or have improved plasma stability, useful for
 PT treating type II diabetes
 PT Example 1; page -; 16pp; English.
 PS The present peptide is a specific example of a claimed human
 XX glucagon like peptide 1 (GLP-1) analogue, which is useful for
 CC stimulating insulin release from pancreatic islet cells, especially
 CC in the treatment of type II diabetes at doses of 1 pg/kg to
 CC 1 mg/kg.
 CC (Updated on 25-MAR-2003 to correct PF field.)
 XX Sequence 31 AA;
 SQ AAW03873 Length: 31 January 22, 2004 18:02 Type: P Check: 7373 ..
 1 HGGTFTSDV SSYLEGQAAK EPIALVVKGR G
 !!AA_SEQUENCE 1.0
 ID AAW22079 standard; Protein; 180 AA.
 XX AC AAW22079;
 XX DT 03-FEB-1998 (first entry)
 XX DE Rat preproglucagon.
 XX KW Recombinant protein; expression; secretory cell line; rat;
 KW glucagon; peptide hormone; amidation; insulinoma; RIN; diabetes;
 KW gene therapy.
 XX OS Rattus sp.
 XX PN W09726321-A2.
 XX PD 24-JUL-1997.
 XX PF 17-JAN-1997; 97WO-US000761.

XX 15-OCT-1996; 96US-0028427.
 PR 19-JAN-1996; 96US-0589028.
 XX (BETA-) BETAGENE INC.
 PA (TEXA) UNIV TEXAS SYSTEM.
 XX Clark SA, Halban PA, Kruse F, McGarry D, Newgard CB,
 PI Normington KD, Quaade C, Thigpen AE;
 XX WPI; 1997-385326/35.
 DR N-PEDB; AAT75669.
 XX Recombinant cell engineered to provide amylin to a mammal - useful
 PT to treat e.g. angiogenesis, anorexia, obesity, hypertension,
 PT osteoporosis etc.
 XX Example 10; Page 282-283; 336pp; English.
 XX This polypeptide comprises rat preproglucagon. The sequence can be
 CC expressed from a PCR-amplified cDNA clone (see AAT75669). RIN rat
 CC insulinoma cell lines expressing preproglucagon provided efficient
 CC amidation of a secreted, processed polypeptide. The invention
 CC provides methods for production of heterologous polypeptides using
 CC recombinantly engineered cell lines. Also described are methods of
 CC engineering cells for high level expression, methods of large-scale
 CC heterologous protein production, and methods for treatment of
 CC disease in vivo using viral delivery systems and recombinant cell
 CC lines.
 XX Sequence 180 AA;
 SQ AAW22079 Length: 180 January 22, 2004 18:02 Type: P Check: 8911 ..
 1 MKTVIVAGL FVMLVQGSWQ HAPQDTEENA RSPFASQTEP LEDPDQINED
 51 KRHSQGTFTS DYSKYLSRR AQDFVQMLMN TKRNNNIAK RHDEFRIAE
 101 GFTSDVSSY LEGQAAKEFI AMLVKGRGER DPPEVAIAE ELGREADGDS
 151 FSDENVTILD NLATRDFINW LIQTKITDKK
 !!AA_SEQUENCE 1.0
 ID AAW22080 standard; Protein; 180 AA.
 XX AC AAW22080;
 XX DT 03-FEB-1998 (first entry)
 XX DE Human preproglucagon.
 XX KW Recombinant protein; expression; secretory cell line; rat;
 KW glucagon; peptide hormone; amidation; insulinoma; RIN; diabetes;
 KW gene therapy.
 XX OS Homo sapiens.
 XX PN W09726321-A2.
 XX PD 24-JUL-1997.
 XX PF 17-JAN-1997; 97WO-US000761.
 XX 15-OCT-1996; 96US-0028427.
 PR 19-JAN-1996; 96US-0589028.
 XX (BETA-) BETAGENE INC.
 PA (TEXA) UNIV TEXAS SYSTEM.
 XX Clark SA, Halban PA, Kruse F, McGarry D, Newgard CB,
 PI Normington KD, Quaade C, Thigpen AE;
 XX WPI; 1997-385326/35.
 DR

DR N-PSDB; AAT75672.
 XX Recombinant cell engineered to provide amylin to a mammal - useful
 PT to treat e.g. angiogenesis, anorexia, obesity, hypertension,
 PT osteoporosis etc.
 XX
 PS Example 10; Page 284-285; 336pp; English.
 XX
 CC This polypeptide comprises human preproglucagon. The sequence can
 CC be expressed from a PCR-amplified cDNA clone (see AAT75672). RIN rat
 CC insulinoma cell lines expressing preproglucagon provided efficient
 CC amidation of a secreted, processed polypeptide. The invention
 CC provides methods for production of heterologous polypeptides using
 CC recombinantly engineered cell lines. Also described are methods of
 CC engineering cells for high level expression, methods of large-scale
 CC heterologous protein production, and methods for treatment of
 CC disease in vivo using viral delivery systems and recombinant cell
 CC lines.
 XX
 SQ Sequence 180 AA;
 AAW22080 Length: 180 January 22, 2004 18:02 Type: P Check: 9748 ..
 1 MKSIYFVAGL FVMLVQGSQW RSLQDTEKS RSFSASQADP LSDPDQNNED
 51 KRHSQGTFTS DYSKYLSRR AQDFVQWLWN TKRNRRNIAT RHDEFERHAE
 101 GTFTSDVSSY LEQQAKEFI AMLVKGRGR DPPEEVAIVE ELGRRHADGS
 151 FSDENNTILD NLAARDPINW LIQTKITDRK
 IIAA SEQUENCE 1.0
 ID AAW22081 standard; Protein; 180 AA.
 XX
 AC AAW22081;
 DT 03-FEB-1998 (first entry)
 DE Human preproglucagon mutant (R52A).
 XX
 KW Recombinant protein; expression; secretory cell line; rat;
 KW glucagon; peptide hormone; amidation; insulinoma; RIN; diabetes;
 KW gene therapy.
 XX
 OS Homo sapiens.
 OS Synthetic.
 XX
 PN WO9726321-A2.
 XX
 PD 24-JUL-1997.
 XX
 PF 17-JAN-1997; 97WO-US00761.
 XX
 PR 15-OCT-1996; 96US-0028427.
 PR 19-JAN-1996; 96US-0589028.
 XX
 PA (BETA-) BETAGENE INC.
 PA (TEXA) UNIV TEXAS SYSTEM.
 XX
 PI Clark SA, Halban PA, Kruse F, McGarry D, Newgard CB;
 PI Northington KD, Quaade C, Thigpen AE;
 XX
 DR WPI; 1997-385326/35.
 DR N-PSDB; AAT22081.
 XX
 PT Recombinant cell engineered to provide amylin to a mammal - useful
 PT to treat e.g. angiogenesis, anorexia, obesity, hypertension,
 PT osteoporosis etc.
 XX
 PS Example 10; Page 286-287; 336pp; English.
 XX
 CC This polypeptide comprises an Arg52Ala mutant of human
 CC preproglucagon. The sequence can be expressed from a PCR-

CC amplified mutated cDNA clone (see AAT75673). RIN rat insulinoma
 CC cell lines expressing preproglucagon provided efficient amidation
 CC of a secreted, processed polypeptide. The invention provides
 CC methods for production of heterologous polypeptides using
 CC recombinantly engineered cell lines. Also described are methods of
 CC engineering cells for high level expression, methods of large-scale
 CC heterologous protein production, and methods for treatment of
 CC disease in vivo using viral delivery systems and recombinant cell
 CC lines.
 XX
 SQ Sequence 180 AA;
 AAW22081 Length: 180 January 22, 2004 18:02 Type: P Check: 8864 ..
 1 MKSIYFVAGL FVMLVQGSQW RSLQDTEKS RSFSASQADP LSDPDQNNED
 51 KAHSQGTFTS DYSKYLSRR AQDFVQWLWN TKRNRRNIAT RHDEFERHAE
 101 GTFTSDVSSY LEQQAKEFI AMLVKGRGR DPPEEVAIVE ELGRRHADGS
 151 FSDENNTILD NLAARDPINW LIQTKITDRK
 IIAA SEQUENCE 1.0
 ID AAW24389 standard; peptide; 31 AA.
 XX
 AC AAW24389;
 DT 14-JAN-1998 (first entry)
 DE Glucagon-like peptide GLP-1(7-37) Ala8 analogue.
 XX
 KW Diabetes; non-insulin dependent diabetes mellitus; NIDDM;
 KW insulin dependent diabetes mellitus; IDDM; gene therapy;
 KW glucagon-like peptide; GLP.
 XX
 OS Synthetic.
 XX
 PN WO9729180-A1.
 XX
 PD 14-AUG-1997.
 XX
 PF 06-FEB-1997; 97WO-US01978.
 XX
 PR 23-FEB-1996; 96GB-0003847.
 PR 06-FEB-1996; 96US-0012111.
 XX
 PA (ELIL) LILLY & CO ELI.
 XX
 PI Borts TL, Broderick CL, Dimarchi RD, Grinnell BW;
 PI Miller AR;
 XX
 DR WPI; 1997-415336/38.
 DR N-PSDB; AAT77296.
 XX
 PT Gene therapy of type I and type II diabetes - by in vivo expression
 PT of glucagon like peptide GLP-1(7-37) analogue
 XX
 PS Claim 4; Page 8; 31pp; English.
 XX
 CC This sequence represents an analogue of a glucagon-like peptide
 CC GLP-1(7-37), where an alanine is present at the position
 CC corresponding to position 8 of the peptide (position 2 of the sequence
 CC shown here). It provides a means of delivering long term amounts of a
 CC GLP-1(7-37)-based protein, which is useful in treating type I and type II
 CC diabetes. A stable mammalian cell line, which is immunologically
 CC isolated from the mammal's immune system, is transformed with a vector
 CC expressing a protein of the above sequence. This transformed cell line is
 CC then implanted into the individual needing treatment. Once implanted, the
 CC GLP-1(7-37) analogue, in conjunction with high serum glucose levels,
 CC causes pancreatic cells to produce insulin in non-insulin dependent
 CC diabetes mellitus (NIDDM) and delays gastric emptying in both NIDDM and
 CC insulin dependent diabetes mellitus (IDDM) patients. An expression vector
 CC coding for a protein of the above sequence can also be directly injected

CC into the mammal, such that the vector is incorporated into a cell and
CC secretes the protein. This method overcomes the problems of the short
CC serum half life of GLP-1(7-37), allowing delivery of effective long term
CC amounts for diabetes treatment.

XX SQ Sequence 31 AA;

AAW24389 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HASEGTTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA_SEQUENCE 1.0

ID AAW24390 standard; peptide; 31 AA.

XX AC AAW24390;

XX DT 14-JAN-1998 (first entry)

XX DE Glucagon-like peptide GLP-1(7-37) Val8 analogue.

XX KW Diabetes; non-insulin dependent diabetes mellitus; NIDDM;

XX KW insulin dependent diabetes mellitus; IDDM; gene therapy;

XX KW glucagon-like peptide; GLP.

XX OS Synthetic.

XX PN WO9729180-A1.

XX PD 14-AUG-1997.

XX PF 06-FEB-1997; 97WO-US01978.

XX PR 23-FEB-1996; 96GB-0003847.

XX PR 06-FEB-1996; 96US-0012111.

XX PA (ELIL) LILLY & CO ELI.

XX PI Borte TL, Broderick CL, Dimarchi RD, Grinnell BW;

XX PI Miller AR;

XX XX WPI; 1997-415336/38.

XX DR N-PSDB; AAT77297.

XX PT Gene therapy of type I and type II diabetes - by in vivo expression

XX PT of glucagon like peptide GLP-1(7-37) analogue

XX PS Claim 5; Page 8; 3lpp; English.

XX This sequence represents an analogue of a glucagon-like peptide
CC GLP-1(7-37), where an valine is present at the position
CC corresponding to position 8 of the peptide (position 2 of the sequence
CC shown here). It provides a means of delivering long term amounts of a
CC GLP-1(7-37)-based protein, which is useful in treating type I and type II
CC diabetes. A stable mammalian cell line, which is immunologically
CC isolated from the mammal's immune system, is transformed with a vector
CC expressing a protein of the above sequence. This transformed cell line is
CC then implanted into the individual needing treatment. Once implanted, the
CC GLP-1(7-37) analogue, in conjunction with high serum glucose levels,
CC causes pancreatic cells to produce insulin in non-insulin dependent
CC diabetes mellitus (NIDDM) and delays gastric emptying in both NIDDM and
CC insulin dependent diabetes mellitus (IDDM) patients. An expression vector
CC coding for a protein of the above sequence can also be directly injected
CC into the mammal, such that the vector is incorporated into a cell and
CC secretes the protein. This method overcomes the problems of the short
CC serum half life of GLP-1(7-37), allowing delivery of effective long term
CC amounts for diabetes treatment.

XX SQ Sequence 31 AA;

AAW24390 Length: 31 January 22, 2004 18:02 Type: P Check: 7403 ..

1 HVEGTTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA_SEQUENCE 1.0
ID AAW16384 standard; Protein; 180 AA.
XX AC AAW16384;
XX DT 25-MAR-2003 (updated)
XX DT 01-OCT-1997 (first entry)
XX DE Rat prepro-glucagon.
XX DE Glucagon-like peptide-1(7-36); GLP-1, insulin secretagogue
XX KW insulinotropic hormone; type II diabetes mellitus; therapy.
XX OS Rattus sp.

Key	Location/Qualifiers
FT Peptide	1..20
FT Peptide	/label= Sig_peptide
FT Peptide	21..50
FT Peptide	/label= NH2-peptide
FT Cleavage-site	51..52
FT Peptide	/note= "proteolytic cleavage site"
FT Peptide	53..81
FT Peptide	/label= Glucagon
FT Cleavage-site	82..83
FT Peptide	/note= "proteolytic cleavage site"
FT Peptide	84..89
FT Peptide	/label= IP-I
FT Cleavage-site	90..91
FT Peptide	/note= "proteolytic cleavage site"
FT Peptide	92..128
FT Peptide	/label= GLP-I
FT Cleavage-site	129..130
FT Peptide	/note= "proteolytic cleavage site"
FT Peptide	131..143
FT Peptide	/label= IP-II
FT Cleavage-site	144..145
FT Peptide	/note= "proteolytic cleavage site"
FT Peptide	146..178
FT Peptide	/label= GLP-II
FT Cleavage-site	179..180
FT Peptide	/note= "proteolytic cleavage site"

US5614492-A.

25-MAR-1997.

23-NOV-1993; 93US-0156800.

05-SEP-1991; 91US-0756215.

05-MAY-1986; 86US-0859928.

26-JAN-1988; 88US-0148517.

01-JUN-1990; 90US-0532111.

23-NOV-1993; 93US-0156800.

(GCHO) GEN HOSPITAL CORP.

Habener JF;

WPI; 1997-201513/18.

N-PSDB; AAT73216.

Glucagon-like peptide-1 fragment comprising amino acids 7-36 -
useful for enhancing insulin production in pancreatic islet cells,
especially for treating type II diabetes mellitus

Disclosure; Fig 1-1A; 37pp; English.

Rat preproglucagon (AAW16384) is processed by proteolytic cleavage to
CC glucagon, glucagon-like peptide-1 (GLP-1) and GLP-2. A peptide
CC fragment of GLP-1, GLP-1(7-36) (see also AAW16163), has been shown to
CC possess hormonal activity and can be used as an insulin
CC secretagogue and for the treatment of type II diabetes mellitus.

CC (Updated on 25-MAR-2003 to correct PF field.)
 SQ Sequence 180 AA;
 AAW16384 Length: 180 January 22, 2004 18:02 Type: P Check: 8962
 1 MKTVIVAGL FVMLVQGSQK HAPQDTEENA RSPASQTEP LEDPDQINED
 51 KRHSQGTFTS DYSKYLSRR AQDFVQWLMN NKRNRNIAK RHDEFERHAE
 101 GTFTSDVSSY LEGQAKEFI AMLVKGRRR DPPEEVAIAE ELGRRHADGS
 151 FSDENMTILD NLATRDFINW LIQTKITDKK
 !!AA SEQUENCE 1.0
 ID AAW63287 standard; peptide; 31 AA.
 XX AAW63287;
 DT 29-SEP-1998 (first entry)
 DE Glucagon-like peptide-1 (7-37).
 KW GLP-1; glucagon-like peptide; obesity.
 XX Homo sapiens.
 XX WO9819698-A1.
 PD 14-MAY-1998.
 PF 04-NOV-1997; 97WO-US20114.
 PR 30-OCT-1997; 97US-0961405.
 PR 05-NOV-1996; 96US-0030213.
 PA (ELIL) LILLY & CO ELI.
 PI DiMarchi RD, Efendic S;
 DR WPI; 1998-286595/25.
 XX Use of glucagon-like peptide-1 and analogues and derivatives - to
 PT reduce body weight, e.g., in treatment of obesity
 PS Disclosure; Page 5; 42pp; English.
 CC The patent describes a new method of reducing body weight which
 CC comprises administration of a composition comprising: (i) glucagon-
 CC like peptide-1 (GLP-1); (ii) a GLP-1 analogue; (iii) a GLP-1 derivative;
 CC (iv) an agonist of the GLP-1 receptor; (v) a compound which stimulates synthesis
 CC of endogenous GLP-1; (vi) a compound that stimulates release of
 CC endogenous GLP-1; or (vii) a salt of a material described in (i)-(vii).
 CC The method may be used for treatment of obesity. The present sequence,
 CC GLP-1 (7-37), represents a preferred GLP-1 compound which can be used
 CC in the method.
 SQ Sequence 31 AA;
 AAW63287 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
 1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
 !!AA SEQUENCE 1.0
 ID AAW63289 standard; peptide; 31 AA.
 XX AAW63289;
 DT 29-SEP-1998 (first entry)
 DE Val8-Glucagon-like peptide-1 (7-37)-OH.
 KW Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
 KW carboxynonadecanoyl; deoxycholeoyl; choleoyl; lithocholoyl.
 OS Homo sapiens.
 XX WO9808871-A1.
 PD 05-MAR-1998.
 PF 22-AUG-1997; 97WO-DK00340.
 PR 20-DEC-1996; 96DK-0001470.
 PR 30-AUG-1996; 96DK-0000931.
 PR 08-NOV-1996; 96DK-0001259.
 PA (NOVO) NOVO-NORDISK AS.
 XX Knudsen LB, Nielsen PF, Sorensen PO;
 PI WPI; 1998-239721/21.
 DR Glucagon-like peptide-1 derivatives which have lipophilic
 XX substituent - exhibit protracted profiles of action relative to
 PT

KW GLP-1; glucagon-like peptide; obesity.
 XX Synthetic.
 OS WO9819698-A1.
 PN 14-MAY-1998.
 PD 04-NOV-1997; 97WO-US20114.
 PF 30-OCT-1997; 97US-0961405.
 PR 05-NOV-1996; 96US-0030213.
 XX (ELIL) LILLY & CO ELI.
 XX DiMarchi RD, Efendic S;
 PI WPI; 1998-286595/25.
 DR Use of glucagon-like peptide-1 and analogues and derivatives - to
 PT reduce body weight, e.g., in treatment of obesity
 XX Claim 6; Page 18; 42pp; English.
 PS The patent describes a new method of reducing body weight which
 CC comprises administration of a composition comprising: (i) glucagon-
 CC like peptide-1 (GLP-1); (ii) a GLP-1 analogue; (iii) a GLP-1 derivative;
 CC (iv) an agonist of the GLP-1 receptor; (v) a compound which stimulates synthesis
 CC of endogenous GLP-1; (vi) a compound that stimulates release of
 CC endogenous GLP-1; or (vii) a salt of a material described in (i)-(vii).
 CC The method may be used for treatment of obesity. The present sequence,
 CC Val8-GLP-1 (7-37), represents a preferred GLP-1 compound which can be
 CC used in the method.
 SQ Sequence 31 AA;
 AAW63289 Length: 31 January 22, 2004 18:02 Type: P Check: 7403
 1 HVEGTTSDV SSYLEGQAAK EPIAWLVKGR G
 !!AA SEQUENCE 1.0
 ID AAW63180 standard; peptide; 45 AA.
 XX AAW63180;
 AC 16-SEP-1998 (first entry)
 DT GLP-1(1-45).
 DE Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
 KW carboxynonadecanoyl; deoxycholeoyl; choleoyl; lithocholoyl.
 OS Homo sapiens.
 XX WO9808871-A1.
 PD 05-MAR-1998.
 PF 22-AUG-1997; 97WO-DK00340.
 PR 20-DEC-1996; 96DK-0001470.
 PR 30-AUG-1996; 96DK-0000931.
 PR 08-NOV-1996; 96DK-0001259.
 PA (NOVO) NOVO-NORDISK AS.
 XX Knudsen LB, Nielsen PF, Sorensen PO;
 PI WPI; 1998-239721/21.
 DR Glucagon-like peptide-1 derivatives which have lipophilic
 XX substituent - exhibit protracted profiles of action relative to
 PT

PT known glucagon-like peptide-1 compounds and are useful in
 PT treatment of diabetes
 XX
 PS Claim 34; Page -; 76pp; English.
 XX New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
 CC and their analogues are disclosed in which at least one amino acid
 CC residue of the parent peptide has a lipophilic substituent attached
 CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
 CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
 CC carboxynonadecanoyl, deoxychoyl, choloyl or lithocholoyl, and it
 CC is attached e.g. to the epsilon-amino group of a lysine residue in the
 CC peptide. The present sequence represents a preferred parent GLP-1
 CC fragment to which the lipophilic substituent is to be attached.
 CC GLP-1 and its analogues and fragments may be used in treatment of
 CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
 CC clearance rate from the body, which limits their usefulness. The
 CC new lipophilically substituted compounds have a protracted profile
 CC of action compared with known analogues, e.g. GLP-1(7-37).
 CC (N.B. The present sequence is described by name in the patent
 CC specification but is not explicitly shown. It is deduced from the
 CC protein sequence shown in Swiss-Pat entry P01275 using information
 CC given in the patent.)
 XX Sequence 45 AA;
 SQ
 AAW63180 Length: 45 January 22, 2004 18:02 Type: P Check: 8034
 1 HDSFERHAE TTTSDVSSYL EQAAKEFIA WLKVGRRD FPEV
 IIAA SEQUENCE 1.0
 ID AAW63183 standard; peptide; 31 AA.
 XX
 AC AAW63183;
 XX
 DT 16-SEP-1998 (first entry)
 XX
 DE GLP-1(7-37).
 XX
 KW Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
 KW carboxynonadecanoyl; deoxychoyl; choloyl; lithocholoyl.
 XX
 OS Homo sapiens.
 XX
 PN WO9808871-A1.
 XX
 PD 05-MAR-1998.
 XX
 PF 22-AUG-1997; 97WO-DK00340.
 XX
 PR 20-DEC-1996; 96DK-0001470.
 PR 30-AUG-1996; 96DK-0000931.
 PR 08-NOV-1996; 96DK-0001259.
 XX
 PA (NOVO) NOVO-NORDISK AS.
 XX
 PI Knudsen LB, Nielsen PF, Sorensen PO;
 XX
 DR WPI; 1998-239721/21.
 XX
 XX Glucagon-like peptide-1 derivatives which have lipophilic
 PT substituent - exhibit protracted profiles of action relative to
 PT known glucagon-like peptide-1 compounds and are useful in
 PT treatment of diabetes
 XX
 PS Claim 36; Page -; 76pp; English.
 XX
 CC New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
 CC and their analogues are disclosed in which at least one amino acid
 CC residue of the parent peptide has a lipophilic substituent attached
 CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
 CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
 CC carboxynonadecanoyl, deoxychoyl, choloyl or lithocholoyl, and it
 CC is attached e.g. to the epsilon-amino group of a lysine residue in the
 CC peptide. The present sequence represents a preferred parent GLP-1
 CC fragment to which the lipophilic substituent is to be attached.
 CC GLP-1 and its analogues and fragments may be used in treatment of
 CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
 CC clearance rate from the body, which limits their usefulness. The
 CC new lipophilically substituted compounds have a protracted profile
 CC of action compared with known analogues, e.g. GLP-1(7-37).
 CC (N.B. The present sequence is described by name in the patent
 CC specification but is not explicitly shown. It is deduced from the
 CC protein sequence shown in Swiss-Pat entry P01275 using information
 CC given in the patent.)
 XX Sequence 31 AA;
 SQ
 AAW63183 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
 1 HAEGTFTSDV SSYLEGQAAK EPTAWLVKGR G
 IIAA SEQUENCE 1.0
 ID AAW63184 standard; peptide; 32 AA.
 XX
 AC AAW63184;
 XX
 DT 16-SEP-1998 (first entry)
 XX
 DE GLP-1(7-38).
 XX
 KW Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
 KW carboxynonadecanoyl; deoxychoyl; choloyl; lithocholoyl.
 XX
 OS Homo sapiens.
 XX
 PN WO9808871-A1.
 XX
 PD 05-MAR-1998.
 XX
 PF 22-AUG-1997; 97WO-DK00340.
 XX
 PR 20-DEC-1996; 96DK-0001470.
 PR 30-AUG-1996; 96DK-0000931.
 PR 08-NOV-1996; 96DK-0001259.
 XX
 PA (NOVO) NOVO-NORDISK AS.
 XX
 PI Knudsen LB, Nielsen PF, Sorensen PO;
 XX
 DR WPI; 1998-239721/21.
 XX
 XX Glucagon-like peptide-1 derivatives which have lipophilic
 PT substituent - exhibit protracted profiles of action relative to
 PT known glucagon-like peptide-1 compounds and are useful in
 PT treatment of diabetes
 XX
 PS Claim 36; Page -; 76pp; English.
 XX
 CC New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
 CC and their analogues are disclosed in which at least one amino acid
 CC residue of the parent peptide has a lipophilic substituent attached
 CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
 CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
 CC carboxynonadecanoyl, deoxychoyl, choloyl or lithocholoyl, and it
 CC is attached e.g. to the epsilon-amino group of a lysine residue in the
 CC peptide. The present sequence represents a preferred parent GLP-1
 CC fragment to which the lipophilic substituent is to be attached.
 CC GLP-1 and its analogues and fragments may be used in treatment of
 CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
 CC clearance rate from the body, which limits their usefulness. The
 CC new lipophilically substituted compounds have a protracted profile
 CC of action compared with known analogues, e.g. GLP-1(7-37).
 CC (N.B. The present sequence is described by name in the patent
 CC specification but is not explicitly shown. It is deduced from the
 CC protein sequence shown in Swiss-Pat entry P01275 using information
 CC given in the patent.)
 XX Sequence 31 AA;
 SQ

CC is attached e.g. to the epsilon-amino group of a lysine residue in the
 CC peptide. The present sequence represents a preferred parent GLP-1
 CC fragment to which the lipophilic substituent is to be attached.
 CC GLP-1 and its analogues and fragments may be used in treatment of
 CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
 CC clearance rate from the body, which limits their usefulness. The
 CC new lipophilically substituted compounds have a protracted profile
 CC of action compared with known analogues, e.g. GLP-1(7-37).
 CC (N.B. The present sequence is described by name in the patent
 CC specification but is not explicitly shown. It is deduced from the
 CC protein sequence shown in Swiss-Pat entry P01275 using information
 CC given in the patent.)
 XX Sequence 31 AA;
 SQ
 AAW63183 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
 1 HAEGTFTSDV SSYLEGQAAK EPTAWLVKGR G
 IIAA SEQUENCE 1.0
 ID AAW63184 standard; peptide; 32 AA.
 XX
 AC AAW63184;
 XX
 DT 16-SEP-1998 (first entry)
 XX
 DE GLP-1(7-38).
 XX
 KW Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
 KW carboxynonadecanoyl; deoxychoyl; choloyl; lithocholoyl.
 XX
 OS Homo sapiens.
 XX
 PN WO9808871-A1.
 XX
 PD 05-MAR-1998.
 XX
 PF 22-AUG-1997; 97WO-DK00340.
 XX
 PR 20-DEC-1996; 96DK-0001470.
 PR 30-AUG-1996; 96DK-0000931.
 PR 08-NOV-1996; 96DK-0001259.
 XX
 PA (NOVO) NOVO-NORDISK AS.
 XX
 PI Knudsen LB, Nielsen PF, Sorensen PO;
 XX
 DR WPI; 1998-239721/21.
 XX
 XX Glucagon-like peptide-1 derivatives which have lipophilic
 PT substituent - exhibit protracted profiles of action relative to
 PT known glucagon-like peptide-1 compounds and are useful in
 PT treatment of diabetes
 XX
 PS Claim 36; Page -; 76pp; English.
 XX
 CC New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
 CC and their analogues are disclosed in which at least one amino acid
 CC residue of the parent peptide has a lipophilic substituent attached
 CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
 CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
 CC carboxynonadecanoyl, deoxychoyl, choloyl or lithocholoyl, and it
 CC is attached e.g. to the epsilon-amino group of a lysine residue in the
 CC peptide. The present sequence represents a preferred parent GLP-1
 CC fragment to which the lipophilic substituent is to be attached.
 CC GLP-1 and its analogues and fragments may be used in treatment of
 CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
 CC clearance rate from the body, which limits their usefulness. The
 CC new lipophilically substituted compounds have a protracted profile
 CC of action compared with known analogues, e.g. GLP-1(7-37).
 CC (N.B. The present sequence is described by name in the patent
 CC specification but is not explicitly shown. It is deduced from the
 CC protein sequence shown in Swiss-Pat entry P01275 using information
 CC given in the patent.)
 XX Sequence 31 AA;
 SQ

CC given in the patent.)
 XX Sequence 32 AA;
 SQ
 AAW63184 Length: 32 January 22, 2004 18:02 Type: P Check: 9985 ..
 1 HAEGTFTSDV SSYLEGQAAK EFTAWLVKGR GR
 !!AA SEQUENCE 1.0
 ID AAW63185 standard; peptide; 33 AA.
 AC AAW63185;
 XX
 DT 16-SEP-1998 (first entry)
 XX
 DE GLP-1(7-39).
 XX
 KW Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
 KW carboxynonadecanoyl; deoxychoyl; choloyl; lithocholoyl.
 XX
 OS Homo sapiens.
 XX
 PN WO9808871-A1.
 XX
 PD 05-MAR-1998.
 XX
 PF 22-AUG-1997; 97WO-DK00340.
 XX
 PR 20-DEC-1996; 96DK-0001470.
 PR 30-AUG-1996; 96DK-0000931.
 PR 08-NOV-1996; 96DK-0001259.
 XX
 PA (NOVO) NOVO-NORDISK AS.
 XX
 PI Knudsen LB, Nielsen PF, Sorensen PO;
 XX
 PD WPI; 1998-239721/21.
 XX
 PF Glucagon-like peptide-1 derivatives which have lipophilic
 PT substituent - exhibit protracted profiles of action relative to
 PT known glucagon-like peptide-1 compounds and are useful in
 PT treatment of diabetes
 XX
 PS Claim 36; Page -: 76pp; English.
 XX
 CC New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
 CC and their analogues are disclosed in which at least one amino acid
 CC residue of the parent peptide has a lipophilic substituent attached
 CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
 CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
 CC carboxynonadecanoyl, deoxychoyl, choloyl or lithocholoyl, and it
 CC is attached e.g. to the epsilon-amino group of a lysine residue in the
 CC peptide. The present sequence represents a preferred parent GLP-1
 CC fragment to which the lipophilic substituent is to be attached.
 CC GLP-1 and its analogues and fragments may be used in treatment of
 CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
 CC clearance rate from the body, which limits their usefulness. The
 CC new lipophilically substituted compounds have a protracted profile
 CC of action compared with known analogues, e.g. GLP-1(7-37).
 CC (N.B. The present sequence is described by name in the patent
 CC specification but is not explicitly shown. It is deduced from the
 CC protein sequence shown in Swiss-Prot entry P01275 using information
 CC given in the patent.)
 XX
 PS Sequence 33 AA;
 SQ
 AAW63185 Length: 33 January 22, 2004 18:02 Type: P Check: 2691 ..
 1 HAEGTFTSDV SSYLEGQAAK EFTAWLVKGR GRR
 !!AA SEQUENCE 1.0
 ID AAW63186 standard; peptide; 34 AA.
 XX
 DT 16-SEP-1998 (first entry)
 XX
 DE GLP-1(7-41).
 XX
 KW Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
 KW carboxynonadecanoyl; deoxychoyl; choloyl; lithocholoyl.
 XX
 OS Homo sapiens.
 XX
 PN WO9808871-A1.
 XX
 PD 05-MAR-1998.
 XX
 PF 22-AUG-1997; 97WO-DK00340.
 XX
 PR 20-DEC-1996; 96DK-0001470.
 PR 30-AUG-1996; 96DK-0000931.
 PR 08-NOV-1996; 96DK-0001259.
 XX
 PA (NOVO) NOVO-NORDISK AS.
 XX
 PI Knudsen LB, Nielsen PF, Sorensen PO;
 XX
 PD WPI; 1998-239721/21.
 XX
 PF Glucagon-like peptide-1 derivatives which have lipophilic
 PT substituent - exhibit protracted profiles of action relative to
 PT known glucagon-like peptide-1 compounds and are useful in
 PT treatment of diabetes
 XX
 PS Claim 36; Page -: 76pp; English.
 XX
 CC New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
 CC and their analogues are disclosed in which at least one amino acid
 CC residue of the parent peptide has a lipophilic substituent attached
 CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
 CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
 CC carboxynonadecanoyl, deoxychoyl, choloyl or lithocholoyl, and it
 CC is attached e.g. to the epsilon-amino group of a lysine residue in the
 CC peptide. The present sequence represents a preferred parent GLP-1
 CC fragment to which the lipophilic substituent is to be attached.
 CC GLP-1 and its analogues and fragments may be used in treatment of
 CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
 CC clearance rate from the body, which limits their usefulness. The
 CC new lipophilically substituted compounds have a protracted profile
 CC of action compared with known analogues, e.g. GLP-1(7-37).
 CC (N.B. The present sequence is described by name in the patent
 CC specification but is not explicitly shown. It is deduced from the
 CC protein sequence shown in Swiss-Prot entry P01275 using information
 CC given in the patent.)
 XX
 PS Sequence 34 AA;
 SQ

AC AAW63186;
 XX
 DT 16-SEP-1998 (first entry)
 XX
 DE GLP-1(7-40).
 XX
 KW Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
 KW carboxynonadecanoyl; deoxychoyl; choloyl; lithocholoyl.
 XX
 OS Homo sapiens.
 XX
 PN WO9808871-A1.
 XX
 PD 05-MAR-1998.
 XX
 PF 22-AUG-1997; 97WO-DK00340.
 XX
 PR 20-DEC-1996; 96DK-0001470.
 PR 30-AUG-1996; 96DK-0000931.
 PR 08-NOV-1996; 96DK-0001259.
 XX
 PA (NOVO) NOVO-NORDISK AS.
 XX
 PI Knudsen LB, Nielsen PF, Sorensen PO;
 XX
 PD WPI; 1998-239721/21.
 XX
 PF Glucagon-like peptide-1 derivatives which have lipophilic
 PT substituent - exhibit protracted profiles of action relative to
 PT known glucagon-like peptide-1 compounds and are useful in
 PT treatment of diabetes
 XX
 PS Claim 36; Page -: 76pp; English.
 XX
 CC New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
 CC and their analogues are disclosed in which at least one amino acid
 CC residue of the parent peptide has a lipophilic substituent attached
 CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
 CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
 CC carboxynonadecanoyl, deoxychoyl, choloyl or lithocholoyl, and it
 CC is attached e.g. to the epsilon-amino group of a lysine residue in the
 CC peptide. The present sequence represents a preferred parent GLP-1
 CC fragment to which the lipophilic substituent is to be attached.
 CC GLP-1 and its analogues and fragments may be used in treatment of
 CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
 CC clearance rate from the body, which limits their usefulness. The
 CC new lipophilically substituted compounds have a protracted profile
 CC of action compared with known analogues, e.g. GLP-1(7-37).
 CC (N.B. The present sequence is described by name in the patent
 CC specification but is not explicitly shown. It is deduced from the
 CC protein sequence shown in Swiss-Prot entry P01275 using information
 CC given in the patent.)
 XX
 PS Sequence 34 AA;
 SQ
 AAW63186 Length: 34 January 22, 2004 18:02 Type: P Check: 5003 ..
 1 HAEGTFTSDV SSYLEGQAAK EFTAWLVKGR GRRD
 !!AA SEQUENCE 1.0
 ID AAW63187 standard; peptide; 35 AA.
 XX
 AC AAW63187;
 XX
 DT 16-SEP-1998 (first entry)
 XX
 DE GLP-1(7-41).
 XX
 KW Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
 KW carboxynonadecanoyl; deoxychoyl; choloyl; lithocholoyl.
 XX
 OS Homo sapiens.
 XX

PN WO9808871-A1.
XX
PD
XX
XX 05-MAR-1998.
XX
XX 22-AUG-1997; 97WO-DK00340.
XX
XX 20-DEC-1996; 96DK-0001470.
PR 30-AUG-1996; 96DK-0000931.
PR 08-NOV-1996; 96DK-0001259.
XX
XX (NOVO) NOVO-NORDISK AS.
XX
XX
XX Knudsen LB, Nielsen PF, Sorensen PO;
XX WPI; 1998-239721/21.
XX
XX Glucagon-like peptide-1 derivatives which have lipophilic
PT substituent - exhibit protracted profiles of action relative to
PT known glucagon-like peptide-1 compounds and are useful in
PT treatment of diabetes
XX
XX Claim 36; Page -: 76pp; English.
XX
XX New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
CC and their analogues are disclosed in which at least one amino acid
CC residue of the parent peptide has a lipophilic substituent attached
CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
CC carboxynonadecanoyl, deoxycholeoyl, choleoyl or lithocholoyl, and it
CC is attached e.g. to the epsilon-amino group of a Lys residue in the
CC peptide. The present sequence represents a preferred parent GLP-1
CC fragment to which the lipophilic substituent is to be attached.
CC GLP-1 and its analogues and fragments may be used in treatment of
CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
CC clearance rate from the body, which limits their usefulness. The
CC new lipophilically substituted compounds have a protracted profile
CC of action compared with known analogues, e.g. GLP-1(7-37).
CC (N.B. The present sequence is described by name in the patent
CC specification but is not explicitly shown. It is deduced from the
CC protein sequence shown in Swiss-Pat entry P01275 using information
CC given in the patent.)
XX
XX Sequence 35 AA;
SQ
AAW63187 Length: 35 January 22, 2004 18:02 Type: P Check: 7453
1 HAEFTTSDV SSYLEGQAAK EFLWLKGR GRDP
!!IAA SEQUENCE 1.0
ID AAW63190 standard; peptide; 37 AA.
XX
AC AAW63190;
XX
XX 16-SEP-1998 (first entry)
XX
XX GLP-1(1-37).
XX
XX Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
KW carboxynonadecanoyl; deoxycholeoyl; choleoyl; lithocholoyl.
XX
XX Homo sapiens.
OS
XX WO9808871-A1.
PN
XX 05-MAR-1998.
PD
XX 22-AUG-1997; 97WO-DK00340.
XX
XX 20-DEC-1996; 96DK-0001470.
PR 30-AUG-1996; 96DK-0000931.
PR 08-NOV-1996; 96DK-0001259.
XX
XX (NOVO) NOVO-NORDISK AS.
XX
XX
XX Knudsen LB, Nielsen PF, Sorensen PO;
XX WPI; 1998-239721/21.
XX
XX Glucagon-like peptide-1 derivatives which have lipophilic
PT substituent - exhibit protracted profiles of action relative to
PT known glucagon-like peptide-1 compounds and are useful in
PT treatment of diabetes
XX
XX Claim 36; Page -: 76pp; English.
XX
XX New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
CC and their analogues are disclosed in which at least one amino acid
CC residue of the parent peptide has a lipophilic substituent attached
CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
CC carboxynonadecanoyl, deoxycholeoyl, choleoyl or lithocholoyl, and it
CC is attached e.g. to the epsilon-amino group of a Lys residue in the
CC peptide. The present sequence represents a preferred parent GLP-1
CC fragment to which the lipophilic substituent is to be attached.
CC GLP-1 and its analogues and fragments may be used in treatment of
CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
CC clearance rate from the body, which limits their usefulness. The
CC new lipophilically substituted compounds have a protracted profile
CC of action compared with known analogues, e.g. GLP-1(7-37).
CC (N.B. The present sequence is described by name in the patent
CC specification but is not explicitly shown. It is deduced from the
CC protein sequence shown in Swiss-Pat entry P01275 using information
CC given in the patent.)
XX
XX Sequence 35 AA;
SQ

XX Knudsen LB, Nielsen PF, Sorensen PO;
PI WPI; 1998-239721/21.
XX
XX Glucagon-like peptide-1 derivatives which have lipophilic
PT substituent - exhibit protracted profiles of action relative to
PT known glucagon-like peptide-1 compounds and are useful in
PT treatment of diabetes
XX
XX Claim 37; Page -: 76pp; English.
XX
XX New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
CC and their analogues are disclosed in which at least one amino acid
CC residue of the parent peptide has a lipophilic substituent attached
CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
CC carboxynonadecanoyl, deoxycholeoyl, choleoyl or lithocholoyl, and it
CC is attached e.g. to the epsilon-amino group of a Lys residue in the
CC peptide. The present sequence represents a preferred parent GLP-1
CC fragment to which the lipophilic substituent is to be attached.
CC GLP-1 and its analogues and fragments may be used in treatment of
CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
CC clearance rate from the body, which limits their usefulness. The
CC new lipophilically substituted compounds have a protracted profile
CC of action compared with known analogues, e.g. GLP-1(7-37).
CC (N.B. The present sequence is described by name in the patent
CC specification but is not explicitly shown. It is deduced from the
CC protein sequence shown in Swiss-Pat entry P01275 using information
CC given in the patent.)
XX
XX Sequence 37 AA;
SQ
AAW63190 Length: 37 January 22, 2004 18:02 Type: P Check: 2897
1 HDEPHERAEG TTFSDVSSYL EQQAKEPTA WLKGRG
!!IAA SEQUENCE 1.0
ID AAW63191 standard; peptide; 38 AA.
XX
AC AAW63191;
XX
XX 16-SEP-1998 (first entry)
XX
XX GLP-1(1-38).
XX
XX Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
KW carboxynonadecanoyl; deoxycholeoyl; choleoyl; lithocholoyl.
XX
XX Homo sapiens.
OS
XX WO9808871-A1.
PN
XX 05-MAR-1998.
PD
XX 22-AUG-1997; 97WO-DK00340.
XX
XX 20-DEC-1996; 96DK-0001470.
PR 30-AUG-1996; 96DK-0000931.
PR 08-NOV-1996; 96DK-0001259.
XX
XX (NOVO) NOVO-NORDISK AS.
XX
XX
XX Knudsen LB, Nielsen PF, Sorensen PO;
XX WPI; 1998-239721/21.
XX
XX Glucagon-like peptide-1 derivatives which have lipophilic
PT substituent - exhibit protracted profiles of action relative to
PT known glucagon-like peptide-1 compounds and are useful in
PT treatment of diabetes
XX
XX Claim 37; Page -: 76pp; English.
XX

XX New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
CC and their analogues are disclosed in which at least one amino acid
CC residue of the parent peptide has a lipophilic substituent attached
CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
CC carboxynonadecanoyl, deoxychoyl, choloyl or lithocholoyl, and it
CC is attached e.g. to the epsilon-amino group of a Lys residue in the
CC peptide. The present sequence represents a preferred parent GLP-1
CC fragment to which the lipophilic substituent is to be attached.
CC GLP-1 and its analogues and fragments may be used in treatment of
CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
CC clearance rate from the body, which limits their usefulness. The
CC new lipophilically substituted compounds have a protracted profile
CC of action compared with known analogues, e.g. GLP-1(7-37).
CC (N.B. The present sequence is described by name in the patent
CC specification but is not explicitly shown. It is deduced from the
CC protein sequence shown in Swiss-Pat entry P01275 using information
CC given in the patent.)
XX Sequence 38 AA;
SQ
AAW63191 Length: 38 January 22, 2004 18:02 Type: P Check: 6013
1 HDEPERHAEG TFTSDVSSYL EGQAQKEFIA WLKGRGR
!!IAA SEQUENCE 1.0
ID AAW63192 standard; peptide; 39 AA.
XX AC AAW63192;
XX DT 16-SEP-1998 (first entry)
XX DE GLP-1(1-39).
XX KW Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
XX carboxynonadecanoyl; deoxychoyl; choloyl; lithocholoyl.
XX OS Homo sapiens.
XX PN WO9808871-A1.
XX PD 05-MAR-1998.
XX PF 22-AUG-1997; 97WO-DK00340.
XX PR 20-DEC-1996; 96DK-0001470.
XX PR 30-AUG-1996; 96DK-0000931.
XX PR 08-NOV-1996; 96DK-0001259.
XX PA (NOVO) NOVO-NORDISK AS.
XX PI Knudsen LB, Nielsen PF, Sorensen PO;
XX WPI; 1998-239721/21.
XX GLucagon-like peptide-1 derivatives which have lipophilic
PT substituent - exhibit protracted profiles of action relative to
PT known glucagon-like peptide-1 compounds and are useful in
PT treatment of diabetes
XX Claim 37; Page -; 76pp; English.
XX New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
CC and their analogues are disclosed in which at least one amino acid
CC residue of the parent peptide has a lipophilic substituent attached
CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
CC carboxynonadecanoyl, deoxychoyl, choloyl or lithocholoyl, and it
CC is attached e.g. to the epsilon-amino group of a Lys residue in the
CC peptide. The present sequence represents a preferred parent GLP-1
CC fragment to which the lipophilic substituent is to be attached.
CC GLP-1 and its analogues and fragments may be used in treatment of

CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
CC clearance rate from the body, which limits their usefulness. The
CC new lipophilically substituted compounds have a protracted profile
CC of action compared with known analogues, e.g. GLP-1(7-37).
CC (N.B. The present sequence is described by name in the patent
CC specification but is not explicitly shown. It is deduced from the
CC protein sequence shown in Swiss-Pat entry P01275 using information
CC given in the patent.)
XX Sequence 39 AA;
SQ
AAW63192 Length: 39 January 22, 2004 18:02 Type: P Check: 6211
1 HDEPERHAEG TFTSDVSSYL EGQAQKEFIA WLKGRGR
!!IAA SEQUENCE 1.0
ID AAW63193 standard; peptide; 40 AA.
XX AC AAW63193;
XX DT 16-SEP-1998 (first entry)
XX DE GLP-1(1-40).
XX KW Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
XX carboxynonadecanoyl; deoxychoyl; choloyl; lithocholoyl.
XX OS Homo sapiens.
XX PN WO9808871-A1.
XX PD 05-MAR-1998.
XX PF 22-AUG-1997; 97WO-DK00340.
XX PR 20-DEC-1996; 96DK-0001470.
XX PR 30-AUG-1996; 96DK-0000931.
XX PR 08-NOV-1996; 96DK-0001259.
XX PA (NOVO) NOVO-NORDISK AS.
XX PI Knudsen LB, Nielsen PF, Sorensen PO;
XX WPI; 1998-239721/21.
XX GLucagon-like peptide-1 derivatives which have lipophilic
PT substituent - exhibit protracted profiles of action relative to
PT known glucagon-like peptide-1 compounds and are useful in
PT treatment of diabetes
XX Claim 37; Page -; 76pp; English.
XX New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
CC and their analogues are disclosed in which at least one amino acid
CC residue of the parent peptide has a lipophilic substituent attached
CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
CC carboxynonadecanoyl, deoxychoyl, choloyl or lithocholoyl, and it
CC is attached e.g. to the epsilon-amino group of a Lys residue in the
CC peptide. The present sequence represents a preferred parent GLP-1
CC fragment to which the lipophilic substituent is to be attached.
CC GLP-1 and its analogues and fragments may be used in treatment of
CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
CC clearance rate from the body, which limits their usefulness. The
CC new lipophilically substituted compounds have a protracted profile
CC of action compared with known analogues, e.g. GLP-1(7-37).
CC (N.B. The present sequence is described by name in the patent
CC specification but is not explicitly shown. It is deduced from the
CC protein sequence shown in Swiss-Pat entry P01275 using information
CC given in the patent.)
XX Sequence 40 AA;
SQ

AAW63193 Length: 40 January 22, 2004 18:02 Type: P Check: 1931 ..

1 HDSEFHAEG TITSDVSSYL EGQAKEFIA WLKVGRRD

!!AA SEQUENCE 1.0
ID AAW63194 standard; peptide; 41 AA.
XX AC AAW63194;
XX DT 16-SEP-1998 (first entry)
XX DE GLP-1(1-41).
XX KW Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
XX KW carboxynonadecanoyl; deoxycholeoyl; choleoyl; lithocholoyl.
XX OS Homo sapiens.
XX PN WO9808871-A1.
XX PD 05-MAR-1998.
XX PF 22-AUG-1997; 97WO-DK00340.
XX PR 20-DEC-1996; 96DK-0001470.
XX PR 30-AUG-1996; 96DK-0000931.
XX PR 08-NOV-1996; 96DK-0001259.
XX PA (NOVO) NOVO-NORDISK AS.
XX PI Knudsen LB, Nielsen PF, Sorensen PO;
XX DR WPI; 1998-239721/21.
XX PT Glucagon-like peptide-1 derivatives which have lipophilic
XX PT substituent - exhibit protracted profiles of action relative to
XX PT known glucagon-like peptide-1 compounds and are useful in
XX PT treatment of diabetes
XX PS Claim 37; Page -; 76pp; English.
XX CC New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
XX CC and their analogues are disclosed in which at least one amino acid
XX CC residue of the parent peptide has a lipophilic substituent attached
XX CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
XX CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
XX CC carboxynonadecanoyl, deoxycholeoyl, choleoyl or lithocholoyl, and it
XX CC is attached e.g. to the epsilon-amino group of a Lys residue in the
XX CC peptide. The present sequence represents a preferred parent GLP-1
XX CC fragment to which the lipophilic substituent is to be attached.
XX CC GLP-1 and its analogues and fragments may be used in treatment of
XX CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
XX CC clearance rate from the body, which limits their usefulness. The
XX CC new lipophilically substituted compounds have a protracted profile
XX CC of action compared with known analogues, e.g. GLP-1(7-37).
XX CC (N.B. The present sequence is described by name in the patent
XX CC specification but is not explicitly shown. It is deduced from the
XX CC protein sequence shown in Swiss-Prot entry P01275 using information
XX CC given in the patent.)
XX SQ Sequence 41 AA;
AAW63194 Length: 41 January 22, 2004 18:02 Type: P Check: 4801 ..

1 HDSEFHAEG TITSDVSSYL EGQAKEFIA WLKVGRRD F

!!AA SEQUENCE 1.0
ID AAW63195 standard; peptide; 31 AA.
XX AC AAW63195;
XX XX 16-SEP-1998 (first entry)
XX DT 16-SEP-1998 (first entry)
XX XX

DE GLP-1(7-37).

XX Glucagon-like peptide-1; GLP-1; diabetes; lipophilic; tetradecanoyl;
XX carboxynonadecanoyl; deoxycholeoyl; choleoyl; lithocholoyl.
XX OS Synthetic.
XX PN WO9808871-A1.
XX PD 05-MAR-1998.
XX PF 22-AUG-1997; 97WO-DK00340.
XX PR 20-DEC-1996; 96DK-0001470.
XX PR 30-AUG-1996; 96DK-0000931.
XX PR 08-NOV-1996; 96DK-0001259.
XX PA (NOVO) NOVO-NORDISK AS.
XX PI Knudsen LB, Nielsen PF, Sorensen PO;
XX DR WPI; 1998-239721/21.
XX PT Glucagon-like peptide-1 derivatives which have lipophilic
XX PT substituent - exhibit protracted profiles of action relative to
XX PT known glucagon-like peptide-1 compounds and are useful in
XX PT treatment of diabetes
XX PS Claim 41; Page -; 76pp; English.
XX CC New derivatives of glucagon-like peptide-1 (GLP-1) and its fragments
XX CC and their analogues are disclosed in which at least one amino acid
XX CC residue of the parent peptide has a lipophilic substituent attached
XX CC to it. The GLP-1 fragment is preferably GLP-1(A-C) where A is 1-7 and
XX CC C is 35-45. The lipophilic substituent is typically tetradecanoyl,
XX CC carboxynonadecanoyl, deoxycholeoyl, choleoyl or lithocholoyl, and it
XX CC is attached e.g. to the epsilon-amino group of a Lys residue in the
XX CC peptide. The present sequence represents a preferred parent GLP-1
XX CC analogue to which the lipophilic substituent is to be attached.
XX CC GLP-1 and its analogues and fragments may be used in treatment of
XX CC type 1 and type 2 diabetes. Prior art analogues exhibit a high
XX CC clearance rate from the body, which limits their usefulness. The
XX CC new lipophilically substituted compounds have a protracted profile
XX CC of action compared with known analogues, e.g. GLP-1(7-37).
XX CC (N.B. The present sequence is described by name in the patent
XX CC specification but is not explicitly shown. It is deduced from the
XX CC protein sequence shown in Swiss-Prot entry P01275 using information
XX CC given in the patent.)
XX SQ Sequence 31 AA;
AAW63195 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQDAK EPTAWLVKGR G

!!AA SEQUENCE 1.0
ID AAW50902 standard; peptide; 31 AA.
XX AC AAW50902;
XX DT 17-AUG-1998 (first entry)
XX DE Glucagon-like peptide-1 (7-37).
XX KW Glucagon-like peptide-1; GLP-1 (7-37); GLP-1 analogue; surgical trauma;
XX KW stress; hormonal response; insulin resistance; catabolic reaction;
XX KW human; incretin hormone.
XX OS Homo sapiens.
XX PN WO9808873-A1.
XX PR 05-MAR-1998.
XX DT 05-MAR-1998.

XX PF 26-AUG-1997; 97WO-US15042.
 XX PR 21-AUG-1997; 97US-0024982.
 XX PR 30-AUG-1996; 96US-0024982.
 XX PA (ELIL) LILLY & CO ELI.
 XX PF Efendic S;
 XX PI WPI; 1998-239722/21.
 XX DR
 XX PT Use of glucagon-like peptide-1 and analogues and their derivatives
 XX PT - to attenuate post-surgical catabolic changes, insulin resistance
 XX PT and hormonal responses to stress
 XX PS Claim 1; Page 7; 42pp; English.
 XX CC The present sequence represents glucagon-like peptide-1 (GLP-1 (7-37)),
 XX CC which is used in the methods of the invention. The methods are: (1) for
 XX CC attenuating post-surgical catabolic changes and insulin resistance,
 XX CC comprising administering glucagon-like peptide-1 (GLP-1), a GLP-1
 XX CC analogue, a GLP-1 derivative, or a salt of this compound; (2) for
 XX CC attenuating post-surgical catabolic changes and hormonal responses to
 XX CC stress, comprising administering a compound which exerts insulinotropic
 XX CC activity by interacting with the same receptor (or receptors) with which
 XX CC GLP-1, GLP-1 analogues and GLP-1 derivatives interact in exerting their
 XX CC insulinotropic activity, and (3) for attenuating post-surgical catabolic
 XX CC changes and hormonal responses to stress, comprising administering a
 XX CC compound which enhances insulin sensitivity by interacting with the same
 XX CC receptor (or receptors) with which GLP-1, GLP-1 analogues and GLP-1
 XX CC derivatives interact to enhance insulin sensitivity. The processes are
 XX CC useful for improving recovery after surgery by preventing the catabolic
 XX CC reaction and insulin resistance caused by surgical trauma and
 XX CC exacerbated by pre-operative fasting. GLP-1's short half-life, and hence
 XX CC the need for continuous administration, are not disadvantages, as the
 XX CC patient is usually hospitalised before surgery, and fluids are
 XX CC continuously administered parenterally, before, during and after surgery.
 XX SQ Sequence 31 AA;
 AAWS0902 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA SEQUENCE 1.0
 ID AAY80306 standard; peptide; 31 AA.
 AC AAY80306;
 XX DT 20-MAR-2003 (updated)
 XX DT 24-MAY-2000 (first entry)
 XX DE Glucagon peptide-1 (7-37) analogue #1.
 XX KW Glucagon-Like Peptide-1 (7-37) analogue; GLP-1(7-37); anorectic;
 XX KW antidiabetic; diabetes; obesity; metabolic stability.
 XX OS Synthetic.
 XX FH Key Location/Qualifiers
 XX FT Misc-difference 14 /note= "D-form residue"
 XX FT Modified-site 31 /note= "C-terminal amide"
 XX FT
 XX PN FR2777283-A1.
 XX XX 15-OCT-1999.
 XX PD 10-APR-1998; 98PR-0004559.
 XX PF 10-APR-1998; 98PR-0004559.
 XX PR

XX PA (ADIR) ADIR & CIE.
 XX PI Calas B, Grassy G, Chavanieu A, Sarrauste De Menhies C, Renard P;
 XX PI Pfeiffer B, Manechez D;
 XX DR WPI; 1999-608797/12.
 XX XX
 XX PT New peptide for treating obesity and diabetes, and with improved
 XX PT metabolic stability
 XX PS Claim 5; Page 31; 36pp; French.
 XX CC The invention relates to new Glucagon-like Peptide-1 (7-37) (t(GLP-1))
 XX CC analogues of which this sequence represents a specific example of the
 XX CC peptide having the generic formula AAY80304 or AAY80305. The peptides
 XX CC have anorectic and antidiabetic activity and are used for treating
 XX CC diseases associated to t(GLP-1), preferably type I or non-insulin
 XX CC dependent type II diabetes, obesity. The peptides have improved metabolic
 XX CC stability thus providing a longer lasting action compared to the natural
 XX CC peptides.
 XX CC (Updated on 20-MAR-2003 to correct DR field.)
 XX SQ Sequence 31 AA;
 AAY80306 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA SEQUENCE 1.0
 ID AAY42936 standard; peptide; 31 AA.
 AC AAY42936;
 XX DT 20-DEC-1999 (first entry)
 XX DE Glucagon-like peptide GLP-1 (7-37).
 XX KW Glucagon-like peptide; GLP-1; antidiabetic; anti-obesity;
 XX KW insulinotropic; appetite suppressant.
 XX OS Homo sapiens.
 XX PN WO9943707-A1.
 XX PD 02-SEP-1999.
 XX PF 25-FEB-1999; 99WO-DK00085.
 XX PR 27-FEB-1998; 98DK-0000263.
 XX PR 27-FEB-1998; 98DK-0000268.
 XX PR 08-APR-1998; 98DK-0000508.
 XX PA (NOVO) NOVO-NORDISK AS.
 XX PI Knudsen LB, Huusefeldt PO, Nielsen PF, Madsen K;
 XX XX WPI; 1999-540561/45.
 XX DR
 XX PT New N-modified peptide derivatives, useful for treating diabetes,
 XX PT insulin resistance and obesity
 XX PS Disclosure; Page 1; 62pp; English.
 XX CC New glucagon-like peptide-1 (GLP-1) derivatives are disclosed which
 XX CC comprise residues 7-45 of GLP-1 or a fragment thereof, preferably
 XX CC residues 7-36, 7-37 or 7-38 or their analogues, in which (a) a
 XX CC lipophilic substituent is attached to at least one amino acid and (b)
 XX CC the N-terminal is substituted with a group containing an optionally
 XX CC substituted 5- or 6-membered N-heterocycle, e.g. imidazyl. The
 XX CC compounds stimulate secretion of insulin, suppress secretion of
 XX CC glucagon, suppress gastric motility and/or restore glucose compliance
 XX CC to beta-cells. They are used to treat insulin-dependent or non-insulin-

CC dependent diabetes mellitus, insulin resistance and obesity. They have
CC a longer-lasting action than GLP-1 derivatives that lack the lipophilic
CC substituent. Some of them also exist as partially structured micelle-
CC like aggregates, so have improved solubility and stability. The present
CC sequence is a specifically preferred example of a GLP-1 analogue on
CC which the derivatives are based.
XX
SQ Sequence 31 AA;

AAAY2936 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA_SEQUENCE 1.0
ID_AAY27375 standard; peptide; 31 AA.

XX AC AAY27375;

XX DT 26-NOV-1999 (first entry)

XX DE Glucagon-like peptide 1 (GLP-1) fragment (residues 7-37).

XX KW Glucagon; glucagon-like peptide 1; GLP-1; detergent; glycogenolytic;
XX KW gluconeogenesis; insulin secretion; diabetes mellitus; obesity;
XX KW spasmodic; hypoglycemia.

XX OS Synthetic.

XX PN WO9947160-A1.

XX PD 23-SEP-1999.

XX PF 08-MAR-1999; 99WO-DK00115.

XX PR 13-MAR-1998; 98EP-0610006.

XX PR 18-MAR-1998; 98US-0078422.

XX PA (NOVO) NOVO-NORDISK AS.

XX PI Kaarsholm NC;

XX DR WPI; 1999-561858/47.

XX PT Aqueous solution of glucagon or glucagon-like peptide-1 stabilized with
XX PT charged detergent, for treating diabetes or obesity

XX PS Examples; Page 5; 27pp; English.

XX CC The invention provides an aqueous solution that comprises: (i) at least
XX CC one glucagon or glucagon-like peptide-1 (GLP-1), or their analogs or
XX CC derivatives (I) and (ii) at least one detergent, other than dodecyl
XX CC phosphocholine. The peptide (I) has at least two positive or negative
XX CC charges or at least one charge of each sign. Glucagon is involved in
XX CC glycogenolytic and gluconeogenesis processes (it also has a spasmodic
XX CC effect on smooth muscle) while GLP-1 promotes secretion of insulin and
XX CC suppresses that of glucagon. The polar head of detergent interacts with the
XX CC charged side chains in (i) while the hydrophobic tail interacts with the
XX CC hydrophobic patch in (ii). The solution is used to treat (non-)insulin-
XX CC dependent diabetes mellitus and obesity. Glucagon is also used in
XX CC radiology as a spasmodic and for treating hypoglycemia. The detergent
XX CC stabilizes the solutions, which are available for immediate use and can
XX CC be stored for a long time at 4-25plusoc. The solutions may have pH
XX CC between 4 and 9, allowing selection of conditions that suppress chemical
XX CC degradation. The detergents are made from natural materials so have
XX CC better biological compatibility than known detergents. The present
XX CC sequence represents a GLP-1 peptide fragment.

XX SQ Sequence 31 AA;

AAAY27375 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA_SEQUENCE 1.0
ID_AAY39772 standard; peptide; 31 AA.

XX AC AAY39772;

XX DT 26-NOV-1999 (first entry)

XX DE Glucagon like peptide-1 (7-37).

XX KW Glucagon-like peptide-1; GLP-1; appetite suppression; human; diabetes;
XX KW spontaneous food intake; therapy.

XX OS Homo sapiens.

XX PN WO9947161-A1.

XX PD 23-SEP-1999.

XX PF 16-MAR-1999; 99WO-US05571.

XX PR 19-MAR-1998; 98US-0078544.

XX PA (BION-) BIONEERASKA INC.

XX PI Goke B, Beglinger C, Coolidge TR;

XX DR WPI; 1999-561859/47.

XX PT New composition for controlling food intake especially in diabetes
XX PT sufferers -

XX PS Claim 4; Page 22; 35pp; English.

XX CC This sequence represents a glucagon-like peptide-1 sequence used in the
XX CC composition of the invention. The composition is for appetite
XX CC suppression, and comprises a compound binding to a GLP-1 receptor and a
XX CC pharmaceutical carrier. The composition can be administered to control
XX CC appetite and/or reduce spontaneous food intake in humans, especially in
XX CC humans with diabetes.

XX SQ Sequence 31 AA;

AAAY39772 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA_SEQUENCE 1.0
ID_AAY39774 standard; peptide; 37 AA.

XX AC AAY39774;

XX DT 26-NOV-1999 (first entry)

XX DE Glucagon like peptide-1 (1-37).

XX KW Glucagon-like peptide-1; GLP-1; appetite suppression; human; diabetes;
XX KW spontaneous food intake; therapy.

XX OS Homo sapiens.

XX PN WO9947161-A1.

XX PD 23-SEP-1999.

XX PF 16-MAR-1999; 99WO-US05571.

XX PR 19-MAR-1998; 98US-0078544.

XX PA (BION-) BIONEERASKA INC.

XX PI Goke B, Beglinger C, Coolidge TR;

XX DR WPI; 1999-561859/47.

XX PT New composition for controlling food intake especially in diabetes
XX PT sufferers -
XX PS Disclosure; Page 8; 35pp; English.
XX CC This sequence represents a glucagon-like peptide-1 sequence used in the
XX CC composition of the invention. The composition is for appetite
XX CC suppression, and comprises a compound binding to a GLP-1 receptor and a
XX CC pharmaceutical carrier. The composition can be administered to control
XX CC appetite and/or reduce spontaneous food intake in humans, especially in
XX CC humans with diabetes.
XX SQ Sequence 37 AA;
AAV39774 Length: 37 January 22, 2004 18:02 Type: P Check: 2897 ..
1 HDEFERHAG TFTSDVSSYL EGQAQKEFTIA WLVKGRG
!!IAA SEQUENCE 1.0
ID -AAV39810 standard; peptide; 31 AA.
XX AC AAV39810;
XX DT 30-NOV-1999 (first entry)
XX DE Glucagon-like peptide-1 (7-36).
XX KW Glucagon-like peptide-1; GLP-1; insulin; pancreatic beta-type islet cell;
XX KW therapy; maturity onset diabetes; type II diabetes mellitus.
XX OS Homo sapiens.
XX PN US5958909-A.
XX PD 28-SEP-1999.
XX PF 20-NOV-1996; 96US-0749762.
XX PR 26-JAN-1988; 88US-0148517.
XX PR 05-SEP-1991; 91US-0756215.
XX PR 23-NOV-1993; 93US-0156800.
XX PR 05-MAY-1986; 86US-0859928.
XX PR 01-JUN-1990; 90US-0532111.
XX PA (GEO) GEN HOSPITAL CORP.
XX PI Habener JF;
XX DR WPI; 1999-561064/47.
XX DR N-PSDB; AA220678.
XX XX Use of derivatives of glucagon-like peptide-1 for the treatment of
XX PT maturity onset (type II) diabetes mellitus -
XX PS Disclosure; Fig 1; 39pp; English.
XX CC This sequence represents the preproglucagon protein sequence. The
XX CC invention relates to a method for enhancing the expression of insulin in
XX CC pancreatic beta-type islet cells using derivatives of glucagon-like
XX CC peptide-1 (GLP-1). The GLP-1 sequence may be useful for the
XX CC therapy or treatment of maturity onset (type II) diabetes mellitus.
XX SQ Sequence 180 AA;
AAV39812 Length: 180 January 22, 2004 18:02 Type: P Check: 9106 ..
1 MKTVIVAGL FVNLVGSQ HAPQDTEENA RSPASQTEP LEPPDQINED
51 KRHSQGTFTS DYSKYLDSSR AQPFWQLMN TKRNNNIAK RHDEFERHAE
101 GTFTSDVSSY LEGQAQKEFI AMLVKGRGR DPPEVAIAE ELGRRIADGS
151 PSDEMTILD NLATRDFINW LIQKITDKK
!!IAA SEQUENCE 1.0
ID -AAV34199 standard; peptide; 31 AA.
XX AC AAV34199;
XX DT 16-NOV-1999 (first entry)
XX DE GLP-1 mutant peptide, GLP-1(7-37).
XX KW GLP-1; Glucagon-like peptide-1; human; type I diabetes; type II diabetes;
XX KW obesity; therapy; mutein.
XX OS Homo sapiens.
XX OS Synthetic.
XX PN WO9943341-A1.
XX PD 02-SEP-1999.
XX PF 25-FEB-1999; 99WO-DK00084.
XX SQ Sequence 31 AA;
AAV39810 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
1 HAEGTFTSDV SSYLEGQAQK EFTIANLVKGR G
!!IAA SEQUENCE 1.0
ID -AAV39812 standard; peptide; 180 AA.
XX AC AAV39812;
XX SQ

DT 30-NOV-1999 (first entry)
XX Preproglucagon protein sequence.
DE
XX
KW Glucagon-like peptide-1; GLP-1; insulin; pancreatic beta-type islet cell;
KW therapy; maturity onset diabetes; type II diabetes mellitus;
KW preproglucagon.
OS Homo sapiens.
XX US5958909-A.
PN 28-SEP-1999.
PD 20-NOV-1996; 96US-0749762.
XX 26-JAN-1988; 88US-0148517.
XX 05-SEP-1991; 91US-0756215.
XX 23-NOV-1993; 93US-0156800.
XX 05-MAY-1986; 86US-0859928.
XX 01-JUN-1990; 90US-0532111.
XX (GEO) GEN HOSPITAL CORP.
XX PI Habener JF;
XX DR WPI; 1999-561064/47.
XX DR N-PSDB; AA220678.
XX XX Use of derivatives of glucagon-like peptide-1 for the treatment of
XX PT maturity onset (type II) diabetes mellitus -
XX PS Disclosure; Fig 1; 39pp; English.
XX CC This sequence represents the preproglucagon protein sequence. The
XX CC invention relates to a method for enhancing the expression of insulin in
XX CC pancreatic beta-type islet cells using derivatives of glucagon-like
XX CC peptide-1 (GLP-1). The GLP-1 sequence may be useful for the
XX CC therapy or treatment of maturity onset (type II) diabetes mellitus.
XX SQ Sequence 180 AA;
AAV39812 Length: 180 January 22, 2004 18:02 Type: P Check: 9106 ..
1 MKTVIVAGL FVNLVGSQ HAPQDTEENA RSPASQTEP LEPPDQINED
51 KRHSQGTFTS DYSKYLDSSR AQPFWQLMN TKRNNNIAK RHDEFERHAE
101 GTFTSDVSSY LEGQAQKEFI AMLVKGRGR DPPEVAIAE ELGRRIADGS
151 PSDEMTILD NLATRDFINW LIQKITDKK
!!IAA SEQUENCE 1.0
ID -AAV34199 standard; peptide; 31 AA.
XX AC AAV34199;
XX DT 16-NOV-1999 (first entry)
XX DE GLP-1 mutant peptide, GLP-1(7-37).
XX KW GLP-1; Glucagon-like peptide-1; human; type I diabetes; type II diabetes;
XX KW obesity; therapy; mutein.
XX OS Homo sapiens.
XX OS Synthetic.
XX PN WO9943341-A1.
XX PD 02-SEP-1999.
XX PF 25-FEB-1999; 99WO-DK00084.
XX SQ

PR 27-FEB-1998; 98DK-0000268.
 PR 27-FEB-1998; 98DK-0000272.
 XX (NOVO) NOVO-NORDISK AS.
 XX Knudsen LB, Huusfeldt PO, Nielsen PF, Kaarsholm NC, Olsen HB;
 PI Bjorn SE;
 PI WPI; 1999-540500/45.
 XX Composition containing stabilized derivatives of glucagon-like
 PT peptide-1 with high alpha-helix content, for treating diabetes and
 PT obesity
 XX
 XX Claim 30; Page -: 63pp; English.
 XX
 CC This sequence represents a mutant of the human glucagon-like peptide-1
 CC (GLP-1), and has a helix content (determined by circular dichroism at
 CC 222 nm in water at 20-24 degrees C) over 25, preferably 25-50, % at
 CC peptide concentration about 10 microm. The GLP-1 mutant can be used in a
 CC pharmaceutical composition of the invention. The compositions are used to
 CC treat diabetes (both type I and particularly type II) and/or obesity.
 CC They have better solubility and/or stability (against endogenous
 CC diaminopeptidyl peptidase) than parent peptides, with long persistence in
 CC the plasma and retention of biological activity. They form partially
 CC structured micelle-like aggregates in solution, with the helix content
 CC practically independent of concentration.
 CC NOTE: This sequence was created from the human GLP-1 sequence using
 CC information given in the specification.
 XX
 XX Sequence 31 AA;
 XX
 AAY34199 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
 1 HAEGTFTSDV SSYLEGQAAK EPIAMLVKGR G
 IIAA SEQUENCE 1.0
 ID AAY34200 standard; peptide; 32 AA.
 AC AAY34200;
 XX 16-NOV-1999 (first entry)
 DT GLP-1 mutant peptide, GLP-1(7-38).
 DE GLP-1; Glucagon-like peptide-1; human; type I diabetes; type II diabetes;
 KW obesity; therapy; mutein.
 XX Homo sapiens.
 OS Synthetic.
 OS W09943341-A1.
 PN 02-SEP-1999.
 PD 25-FEB-1999; 99WO-DK00084.
 PF 27-FEB-1998; 98DK-0000268.
 PR 27-FEB-1998; 98DK-0000272.
 XX (NOVO) NOVO-NORDISK AS.
 XX Knudsen LB, Huusfeldt PO, Nielsen PF, Kaarsholm NC, Olsen HB;
 PI Bjorn SE;
 PI WPI; 1999-540500/45.
 XX Composition containing stabilized derivatives of glucagon-like
 PT peptide-1 with high alpha-helix content, for treating diabetes and
 PT obesity
 XX
 XX Claim 30; Page -: 63pp; English.
 XX

CC This sequence represents a mutant of the human glucagon-like peptide-1
 CC (GLP-1), and has a helix content (determined by circular dichroism at
 CC 222 nm in water at 20-24 degrees C) over 25, preferably 25-50, % at
 CC peptide concentration about 10 microm. The GLP-1 mutant can be used in a
 CC pharmaceutical composition of the invention. The compositions are used to
 CC treat diabetes (both type I and particularly type II) and/or obesity.
 CC They have better solubility and/or stability (against endogenous
 CC diaminopeptidyl peptidase) than parent peptides, with long persistence in
 CC the plasma and retention of biological activity. They form partially
 CC structured micelle-like aggregates in solution, with the helix content
 CC practically independent of concentration.
 CC NOTE: This sequence was created from the human GLP-1 sequence using
 CC information given in the specification.
 XX
 XX Sequence 32 AA;
 XX
 AAY34200 Length: 32 January 22, 2004 18:02 Type: P Check: 19985 ..
 1 HAEGTFTSDV SSYLEGQAAK EPIAMLVKGR GR
 IIAA SEQUENCE 1.0
 ID AAY34201 standard; peptide; 33 AA.
 AC AAY34201;
 XX 16-NOV-1999 (first entry)
 DT GLP-1 mutant peptide, GLP-1(7-39).
 DE GLP-1; Glucagon-like peptide-1; human; type I diabetes; type II diabetes;
 KW obesity; therapy; mutein.
 XX Homo sapiens.
 OS Synthetic.
 OS W09943341-A1.
 PN 02-SEP-1999.
 PD 25-FEB-1999; 99WO-DK00084.
 PF 27-FEB-1998; 98DK-0000268.
 PR 27-FEB-1998; 98DK-0000272.
 XX (NOVO) NOVO-NORDISK AS.
 XX Knudsen LB, Huusfeldt PO, Nielsen PF, Kaarsholm NC, Olsen HB;
 PI Bjorn SE;
 PI WPI; 1999-540500/45.
 XX Composition containing stabilized derivatives of glucagon-like
 PT peptide-1 with high alpha-helix content, for treating diabetes and
 PT obesity
 XX
 XX Claim 30; Page -: 63pp; English.
 XX
 CC This sequence represents a mutant of the human glucagon-like peptide-1
 CC (GLP-1), and has a helix content (determined by circular dichroism at
 CC 222 nm in water at 20-24 degrees C) over 25, preferably 25-50, % at
 CC peptide concentration about 10 microm. The GLP-1 mutant can be used in a
 CC pharmaceutical composition of the invention. The compositions are used to
 CC treat diabetes (both type I and particularly type II) and/or obesity.
 CC They have better solubility and/or stability (against endogenous
 CC diaminopeptidyl peptidase) than parent peptides, with long persistence in
 CC the plasma and retention of biological activity. They form partially
 CC structured micelle-like aggregates in solution, with the helix content
 CC practically independent of concentration.
 CC NOTE: This sequence was created from the human GLP-1 sequence using
 CC information given in the specification.
 XX
 XX Sequence 33 AA;
 XX

OS Homo sapiens.
OS Synthetic.
XX W09943341-A1.
XX
XX
XX PD 02-SEP-1999.
XX
XX PF 25-FEB-1999; 99WO-DK00084.
XX
XX 27-FEB-1998; 98DK-0000268.
XX 27-FEB-1998; 98DK-0000272.
XX
XX PA (NOVO) NOVO-NORDISK AS.
XX
XX Knudsen LB, Huusfeldt PO, Nielsen PF, Kaarsholm NC, Olsen HB;
XX Bjorn SE;
XX WPI, 1999-540500/45.
XX
XX Composition containing stabilized derivatives of glucagon-like
XX peptide-1 with high alpha-helix content, for treating diabetes and
XX obesity
XX
XX Claim 30; Page -; 63pp; English.
XX
XX This sequence represents a mutant of the human glucagon-like peptide-1
XX (GLP-1), and has a helix content (determined by circular dichroism at
XX 222 nm in water at 20-24 degrees C) over 25, preferably 25-50, % at
XX peptide concentration about 10 microm. The GLP-1 mutant can be used in a
XX pharmaceutical composition of the invention. The compositions are used to
XX treat diabetes (both type I and particularly type II) and/or obesity.
XX They have better solubility and/or stability (against endogenous
XX diaminopeptidyl peptidase) than parent peptides, with long persistence in
XX the plasma and retention of biological activity. They form partially
XX structured micelle-like aggregates in solution, with the helix content
XX practically independent of concentration.
XX NOTE: This sequence was created from the human GLP-1 sequence using
XX information given in the specification.
XX
XX Sequence 35 AA;
XX
XX AAY34203 Length: 35 January 22, 2004 18:02 Type: P Check: 7453 ..
XX
XX 1 HAEGTFTSDV SSYLEGQAAK EFIAWLVIKGR GRRDF
XX
XX !!AA SEQUENCE 1.0
XX ID AAY28960 standard; Protein; 187 AA.
XX AC AAY28960;
XX
XX DT 04-OCT-1999 (first entry)
XX
XX DE Amino acid sequence of a fusion protein G117S4HR6GLP-1;
XX
XX XX Recombinant peptide production; fusion peptide; accessory peptide;
XX KW chemical modification; agglutination.
XX
XX OS Synthetic.
XX
XX XX W09938984-A1.
XX
XX PD 05-AUG-1999.
XX
XX PF 29-JAN-1999; 99WO-JP00406.
XX
XX PR 30-JAN-1998; 98JP-0032272.
XX
XX XX (SUNR) SUNTORY LTD.
XX
XX PA Ohsuye K, Suzuki Y, Yabuta M;
XX
XX PI WPI, 1999-469333/39.
XX
XX DR

PT Production of recombinant peptide as a fusion peptide followed by
 PT cleavage to give the target peptide in high yield and purity
 XX
 PS Disclosure; Fig 11; 88pp; Japanese.
 XX
 CC The invention provides a method for the production of a desired
 CC recombinant peptide where the recombinant peptide is produced as a fusion
 CC peptide with a suitable accessory peptide. The fusion peptide is purified
 CC from culture, subjected to any desired chemical modification, and then
 CC cleaved and further purified to yield the desired peptide. The method is
 CC used for efficient production of the desired peptides in high yield and
 CC purity. The method allows the isoelectric point of the peptide purified
 CC from the culture medium to be regulated to prevent agglutination of the
 CC peptide and resultant loss of purity. Purity of above 98% and endotoxin
 CC content below 0.03 U/mg can be achieved. The present sequence represents
 CC the amino acid sequence of a fusion protein G11784HompRHKR comprising
 CC GLP-1, a supplementary peptide and beta-galactosidase protective peptide.
 XX
 SQ Sequence 187 AA;
 AAY28960 Length: 187 January 22, 2004 18:02 Type: P Check: 5975
 CC
 1 MTMTDSLAV VLQRKWDNDP GVTQLNRLAA HPPFASWRNS DDARTDRPSQ
 51 QLRSLNGEWR FAWFPAPAEV PASLLESDDL EADTVVVP SN WQMHGYDAPI
 101 YTNVTYPTIV NPPFVPTPEH HHHGGRQMH GYDAELRLYR RHRWGRSGS
 151 PSRHRHAEGT TSDTSVSYL EQAAKEPIA WLKGRG
 !!AA SEQUENCE 1.0
 ID AAY28961 standard; Protein; 184 AA.
 XX
 AC AAY28961;
 XX
 DT 04-OCT-1999 (first entry)
 XX
 DE Amino acid sequence of a fusion protein G11784HompRHKR.
 XX
 KW Recombinant peptide production; fusion peptide; accessory peptide;
 KW chemical modification; agglutination.
 XX
 OS Synthetic.
 XX
 PN WO9338984-A1.
 XX
 PD 05-AUG-1999.
 XX
 PF 29-JAN-1999; 99WO-JP00406.
 XX
 PR 30-JAN-1998; 98JP-0032272.
 XX
 PA (SUNR) SUNTORY LTD.
 XX
 PI Ohsuye K, Suzuki Y, Yabuta M;
 XX
 DR WPI; 1999-469333/39.
 XX
 PT Production of recombinant peptide as a fusion peptide followed by
 PT cleavage to give the target peptide in high yield and purity
 XX
 PS Disclosure; Fig 12; 88pp; Japanese.
 XX
 CC The invention provides a method for the production of a desired
 CC recombinant peptide where the recombinant peptide is produced as a fusion
 CC peptide with a suitable accessory peptide. The fusion peptide is purified
 CC from culture, subjected to any desired chemical modification, and then
 CC cleaved and further purified to yield the desired peptide. The method is
 CC used for efficient production of the desired peptides in high yield and
 CC purity. The method allows the isoelectric point of the peptide purified
 CC from the culture medium to be regulated to prevent agglutination of the
 CC peptide and resultant loss of purity. Purity of above 98% and endotoxin
 CC content below 0.03 U/mg can be achieved. The present sequence represents

CC the amino acid sequence of a fusion protein G11784HompRHKR comprising
 CC GLP-1, a supplementary peptide and beta-galactosidase protective peptide.
 XX
 SQ Sequence 184 AA;
 AAY28961 Length: 184 January 22, 2004 18:02 Type: P Check: 1304
 CC
 1 MTMTDSLAV VLQRKWDNDP GVTQLNRLAA HPPFASWRNS DDARTDRPSQ
 51 QLRSLNGEWR FAWFPAPAEV PASLLESDDL EADTVVVP SN WQMHGYDAPI
 101 YTNVTYPTIV NPPFVPTPEH HHHGGRQMH GYDAELRLYR RHRWGRSGS
 151 HPRHAEGT TSDTSVSYL EQAAKEPIA WLKGRG
 !!AA SEQUENCE 1.0
 ID AAY28962 standard; Protein; 184 AA.
 XX
 AC AAY28962;
 XX
 DT 04-OCT-1999 (first entry)
 XX
 DE Amino acid sequence of a fusion protein G11784HompRHKR.
 XX
 KW Recombinant peptide production; fusion peptide; accessory peptide;
 KW chemical modification; agglutination.
 XX
 OS Synthetic.
 XX
 PN WO9338984-A1.
 XX
 PD 05-AUG-1999.
 XX
 PF 29-JAN-1999; 99WO-JP00406.
 XX
 PR 30-JAN-1998; 98JP-0032272.
 XX
 PA (SUNR) SUNTORY LTD.
 XX
 PI Ohsuye K, Suzuki Y, Yabuta M;
 XX
 DR WPI; 1999-469333/39.
 XX
 PT Production of recombinant peptide as a fusion peptide followed by
 PT cleavage to give the target peptide in high yield and purity
 XX
 PS Disclosure; Fig 13; 88pp; Japanese.
 XX
 CC The invention provides a method for the production of a desired
 CC recombinant peptide where the recombinant peptide is produced as a fusion
 CC peptide with a suitable accessory peptide. The fusion peptide is purified
 CC from culture, subjected to any desired chemical modification, and then
 CC cleaved and further purified to yield the desired peptide. The method is
 CC used for efficient production of the desired peptides in high yield and
 CC purity. The method allows the isoelectric point of the peptide purified
 CC from the culture medium to be regulated to prevent agglutination of the
 CC peptide and resultant loss of purity. Purity of above 98% and endotoxin
 CC content below 0.03 U/mg can be achieved. The present sequence represents
 CC the amino acid sequence of a fusion protein G11784HompRHKR comprising
 CC GLP-1, a supplementary peptide and beta-galactosidase protective peptide.
 XX
 SQ Sequence 184 AA;
 AAY28962 Length: 184 January 22, 2004 18:02 Type: P Check: 1394
 CC
 1 MTMTDSLAV VLQRKWDNDP GVTQLNRLAA HPPFASWRNS DDARTDRPSQ
 51 QLRSLNGEWR FAWFPAPAEV PASLLESDDL EADTVVVP SN WQMHGYDAPI
 101 YTNVTYPTIV NPPFVPTPEH HHHGGRQMH GYDAELRLYR RHRWGRSGS
 151 HPRHAEGT TSDTSVSYL EQAAKEPIA WLKGRG

AAV22167 Length: 31 January 22, 2004 18:02 Type: P Check: 7403 ..
 1 HVEGTFSTSDV SSYLEGQAAK EPIAWLVKGR G

IIAA SEQUENCE 1.0
 ID AAY18036 standard; peptide; 31 AA.
 AC AAY18036;
 XX
 DT 03-AUG-1999 (first entry)
 DE GLP-1(7-37)OH peptide.
 KW GLP-1; glucagon-like peptide-1; rod-shaped GLP molecule; diabetes;
 KW plate-like GLP related molecule crystal; crystal preparation; obesity;
 KW therapy.
 OS Homo sapiens.
 XX
 PN EP926159-A2.
 XX
 PD 30-JUN-1999.
 XX
 PF 14-DEC-1998; 98EP-0310245.
 XX
 PR 16-DEC-1997; 97US-0069728.
 XX
 PA (ELIL) LILLY & CO ELI.
 XX
 PI Hermeling RN, Hoffmann JA, Narasimhan C;
 XX
 DR WPI; 1999-349221/30.
 XX
 PT Preparation of single rod-shaped or plate-like glucagon-like
 PT peptide-1 related molecule crystals, useful for treating diabetes,
 PT obesity etc
 XX
 PS Disclosure; Page 3; 17pp; English.
 XX

This sequence represents the glucagon-like peptide-1 (GLP-1)
 peptide designated GLP-1(7-37)OH.
 CC The invention relates to a method for the preparation of single
 CC rod-shaped or plate-like GLP related molecule crystals comprising,
 CC preparing a crystallization solution comprising a GLP, a buffering agent,
 CC an alcohol or a mono- or disaccharide, and optionally, ammonium sulphate
 CC or zinc. Administration of (a composition comprising) GLP crystals is
 CC useful for treating diabetes, obesity or related conditions. The
 CC tetragonal flat rod shaped or plate-like crystals are less prone to trap
 CC impurities and therefore may be produced in greater yields and
 CC administered more reproducibly. They are also uniform and remain in
 CC suspension for a longer period of time than the crystalline clusters or
 CC amorphous crystalline suspensions which tend to rapidly, aggregate, or
 CC clump together, clog syringe needles and generally exacerbate
 CC unpredictable dosing.
 XX
 SQ Sequence 31 AA;
 AAY18036 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

IIAA SEQUENCE 1.0
 ID AAB21328 standard; peptide; 31 AA.
 AC AAB21328;
 XX
 DT 02-FEB-2001 (first entry)
 DE GLP-1(7-37) peptide.
 KW Glucagon-like peptide-1; GLP-1; peptide acylation;
 KW alkanoyl carboxylate ester.
 XX

This sequence represents the glucagon-like peptide-1 (GLP-1)
 peptide designated GLP-1(7-37)OH.
 CC The invention relates to a method for the preparation of single
 CC rod-shaped or plate-like GLP related molecule crystals comprising,
 CC preparing a crystallization solution comprising a GLP, a buffering agent,
 CC an alcohol or a mono- or disaccharide, and optionally, ammonium sulphate
 CC or zinc. Administration of (a composition comprising) GLP crystals is
 CC useful for treating diabetes, obesity or related conditions. The
 CC tetragonal flat rod shaped or plate-like crystals are less prone to trap
 CC impurities and therefore may be produced in greater yields and
 CC administered more reproducibly. They are also uniform and remain in
 CC suspension for a longer period of time than the crystalline clusters or
 CC amorphous crystalline suspensions which tend to rapidly, aggregate, or
 CC clump together, clog syringe needles and generally exacerbate
 CC unpredictable dosing.
 XX
 SQ Sequence 31 AA;
 AAB21328 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

IIAA SEQUENCE 1.0
 ID AAB21331 standard; peptide; 31 AA.
 AC AAB21331;
 XX
 DT 02-FEB-2001 (first entry)
 DE GLP-1 analogue Val8GLP-1(7-37).
 KW Glucagon-like peptide-1; GLP-1; peptide acylation;
 KW alkanoyl carboxylate ester; mutant.
 XX
 OS Synthetic.
 XX
 PN WO200055119-A1.
 XX
 PD 21-SEP-2000.
 XX
 PF 16-MAR-2000; 2000WO-DK00117.
 XX
 PR 17-MAR-1999; 99EP-0610019.
 XX
 PA (NOVO) NOVO NORDISK AS.
 XX
 PI Hansen LB;
 XX
 DR WPI; 2000-628180/60.
 XX
 PT Acylating amino group of peptide or protein, for reducing in vivo
 PT clearance rate, by reacting with alkanoyl carboxylate ester acylating
 PT agent and saponifying acylated peptide ester
 XX
 PS Claim 12; Page 19; 26pp; English.

XX Unidentified.
 OS WO200055119-A1.
 PN
 XX
 PD 21-SEP-2000.
 XX
 PF 16-MAR-2000; 2000WO-DK00117.
 XX
 PR 17-MAR-1999; 99EP-0610019.
 XX
 PA (NOVO) NOVO NORDISK AS.
 XX
 PI Hansen LB;
 XX
 DR WPI; 2000-628180/60.
 XX
 PT Acylating amino group of peptide or protein, for reducing in vivo
 PT clearance rate, by reacting with alkanoyl carboxylate ester acylating
 PT agent and saponifying acylated peptide ester
 XX
 PS Claim 11; Page 19; 26pp; English.
 XX

The present sequence is part of glucagon-like peptide-1. It was used in a
 CC method for acylating peptides. The method comprises reacting a peptide
 CC with an alkanoyl carboxylate ester acylating agent under basic conditions
 CC in a mixture of an aprotic polar solvent and water, and saponifying the
 CC acylated peptide ester group under basic conditions to obtain an
 CC N-acylated peptide. The method is useful for introducing lipophilic acyl
 CC groups into a peptide or a protein in order to reduce the in vivo
 CC clearance rate of the peptide or protein. The method is especially used
 CC to acylate the epsilon-lysine group in a naturally occurring GLP-1
 CC peptide, such as the present sequence, or GLP-1 analogue.
 XX
 SQ Sequence 31 AA;
 AAB21328 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

IIAA SEQUENCE 1.0
 ID AAB21331 standard; peptide; 31 AA.
 AC AAB21331;
 XX
 DT 02-FEB-2001 (first entry)
 DE GLP-1 analogue Val8GLP-1(7-37).
 KW Glucagon-like peptide-1; GLP-1; peptide acylation;
 KW alkanoyl carboxylate ester; mutant.
 XX
 OS Synthetic.
 XX
 PN WO200055119-A1.
 XX
 PD 21-SEP-2000.
 XX
 PF 16-MAR-2000; 2000WO-DK00117.
 XX
 PR 17-MAR-1999; 99EP-0610019.
 XX
 PA (NOVO) NOVO NORDISK AS.
 XX
 PI Hansen LB;
 XX
 DR WPI; 2000-628180/60.
 XX
 PT Acylating amino group of peptide or protein, for reducing in vivo
 PT clearance rate, by reacting with alkanoyl carboxylate ester acylating
 PT agent and saponifying acylated peptide ester
 XX
 PS Claim 12; Page 19; 26pp; English.

XX The present sequence is an analogue of part of glucagon-like peptide-1.
 CC It was used in a method for acylating peptides. The method comprises
 CC reacting a peptide with an alkanoyl carboxylate ester acylating agent
 CC under basic conditions in a mixture of an aprotic polar solvent and
 CC water, and saponifying the acylated peptide ester group under basic
 CC conditions to obtain an N-acylated peptide. The method is useful for
 CC introducing lipophilic acyl groups into a peptide or a protein in order
 CC to reduce the in vivo clearance rate of the peptide or protein. The
 CC method is especially used to acylate the epsilon-lysine group in a
 CC naturally occurring GLP-1 peptide or an analogue, such as the present
 CC sequence.
 XX
 XX Sequence 31 AA;
 SQ

AAB21331 Length: 31 January 22, 2004 18:02 Type: P Check: 7403

1 HVEGTTSDV SSYLEGQAAK EPIALVKGR G

IIAA SEQUENCE 1.0
 ID AAB21334 standard; peptide; 31 AA.

AC AAB21334;

DT 02-FEB-2001 (first entry)

DE GLP-1 analogue Gly8-GLP-1(7-37).

XX Glucagon-like peptide-1; GLP-1; peptide acylation;
 KW alkanoyl carboxylate ester; mutant.
 KW
 XX Synthetic.

OS

XX WO200055119-A1.

PN

XX 21-SEP-2000.

XX 16-MAR-2000; 2000WO-DK00117.

XX 17-MAR-1999; 99EP-0610019.

XX (NOVO) NOVO NORDISK AS.

PA Hansen LB;

PI WPI; 2000-628180/60.

XX Acylating amino group of peptide or protein, for reducing in vivo
 XX clearance rate, by reacting with alkanoyl carboxylate ester acylating
 XX agent and saponifying acylated peptide ester

PS Claim 12; Page 19; 26pp; English.

XX The present sequence is an analogue of part of glucagon-like peptide-1.
 CC It was used in a method for acylating peptides. The method comprises
 CC reacting a peptide with an alkanoyl carboxylate ester acylating agent
 CC under basic conditions in a mixture of an aprotic polar solvent and
 CC water, and saponifying the acylated peptide ester group under basic
 CC conditions to obtain an N-acylated peptide. The method is useful for
 CC introducing lipophilic acyl groups into a peptide or a protein in order
 CC to reduce the in vivo clearance rate of the peptide or protein. The
 CC method is especially used to acylate the epsilon-lysine group in a
 CC naturally occurring GLP-1 peptide or an analogue, such as the present
 CC sequence.
 XX
 XX Sequence 31 AA;
 SQ

AAB21334 Length: 31 January 22, 2004 18:02 Type: P Check: 7373

1 HVEGTTSDV SSYLEGQAAK EPIALVKGR G

IIAA SEQUENCE 1.0
 ID AAB21339 standard; peptide; 31 AA.

XX AAB21339;
 AC
 XX 02-FEB-2001 (first entry)
 DT
 XX GLP-1(7-37) peptide.
 DE
 XX GLP-1; glucagon-like peptide-1; ion exchange chromatography;
 KW GLP-1 purification; organic modifier.
 KW
 XX Unidentified.
 OS
 XX WO200055203-A1.
 PN
 XX 21-SEP-2000.
 PD
 XX 15-MAR-2000; 2000WO-DK00113.
 PF
 XX 15-MAR-1999; 99DK-0000361.
 PR
 XX 19-JAN-2000; 2000DK-0000082.
 PR
 XX (NOVO) NOVO NORDISK AS.
 PA
 XX Staby A;
 XX WPI; 2000-618898/59.
 DR
 XX

Ion exchange chromatographic separation process for separating glucagon

like peptide-1, its analog or derivative from a mixture containing the

peptide and other related impurities, comprises use of a organic

modifier for elution

Claim 9; Page 55; 76pp; English.

The present sequence is a portion of glucagon-like peptide-1 (GLP-1). An

ion exchange chromatography process has been developed for purifying

GLP-1, its analogue or derivative, from a mixture comprising GLP-1 and

impurities. The process uses an organic modifier in the elution step. The

pH of the aqueous elution medium supports a net charge distribution on

the protein or peptide that differs from the net charge of the

impurities. The addition of an organic modifier in the elution step

results in an increase in selectivity and efficiency compared to

the same run with aqueous buffers, both for anion and cation exchange

chromatography. The use of an organic modifier has the additional

advantage that no salt, or a very low concentration of salt, is needed

for elution. The naturally occurring GLP-1 and its analogues may be

produced by integrating the DNA coding sequence into an expression

vector. A secretory signal sequence may be provided in the vector in

order to produce a fusion peptide which is directed into the secretory

pathway of host cells.

Sequence 31 AA;

1 HVEGTTSDV SSYLEGQAAK EPIALVKGR G

IIAA SEQUENCE 1.0

ID AAB21347 standard; peptide; 31 AA.

AC AAB21347;

DT 02-FEB-2001 (first entry)

DE GLP-1 analogue #7.

XX GLP-1; glucagon-like peptide-1; ion exchange chromatography;

KW GLP-1 purification; organic modifier; mutant.

XX Synthetic.

XX WO200055203-A1.

PN

XX

CC metabolic disorders, hyperglycaemia, dyslipidaemia, diabetes (Type 1 and
CC 2), hypertriglyceridaemia, syndrome X, insulin resistance, impaired
CC glucose tolerance, obesity, hyperlipidaemia, cardiovascular diseases,
CC eating disorders, anxiety, movement disorder, aggression, psychosis,
CC seizures, panic attacks, hysteria, sleep disorders and hypertension.
XX
SQ Sequence 31 AA;

AAB21109 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQAAK EFIAMLVKGR G

IIAA SEQUENCE 1.0
ID AAB23948 standard; Protein; 184 AA.
XX
AC AAB23948;
XX
DT 19-JAN-2001 (first entry)
XX
DE Plasmid pG11754H ompRPR protein sequence SEQ ID NO:5.

XX OmpT protease; cleavage: fusion protein; membrane protease;
KW natriuretic; Escherichia coli.
XX
XX Escherichia coli.
OS Synthetic.

XX WO200052193-A1.
PN
XX 08-SEP-2000.
PD
XX 03-MAR-2000; 2000WO-JP01309.
PF

XX 04-MAR-1999; 99JP-0057731.
PR
XX (SUNR) SUNTORY LTD.
XX

XX Okuno K, Yabuta M, Ohsuye K;
PI
XX WPI; 2000-579291/54.
DR

XX Controlled cleavage of peptides by OmpT protease by amino acid
PT substitution for ensuring cleavage only at desired site in fission of
PT fusion proteins

XX Example 1; Fig 4; 144pp; Japanese.

XX The present invention describes a method for regulating the cleavage
XX sites of polypeptides by OmpT protease by preventing cleavage at
XX unwanted sites by converting the amino acid residue at position +1 to
XX the site to a specifically defined amino acid (where the residue at
XX position -1 to the site is Lys or Arg), and/or converting the residue at
XX position -4 and/or -6 to a specifically defined amino acid. Also
XX described is a method for the fusion of a fusion protein to give a
XX desired polypeptide by cleavage with OmpT protease, where the fusion
XX protein has a linker peptide inserted between the desired polypeptide
XX and the other part of the fusion protein. The fusion protein may be
XX prepared by expression of DNA encoding in a suitable host cell such as
XX Escherichia coli. OmpT protease is a membrane protease of Escherichia
XX coli which cleaves peptide chains at a two-residue sites in which both
XX residues are basic amino acids such as arginine or lysine. The methods
XX can be used for the efficient preparation of undegraded desired
XX polypeptides such as natriuretic peptide by OmpT protease cleavage after
XX recombinant expression as a fusion protein. AAA99127 to AAA99177 and
XX AAB23946 to AAB24018 represent sequences used in the exemplification of
XX the present invention.

XX Sequence 184 AA;

AAB23948 Length: 184 January 22, 2004 18:02 Type: P Check: 1498 ..

1 MTMTDSLAV VLQKDWENP GVTQLNRLAA HPPFASWRNS DDARTDRPSQ

51 QLRSLNGEWR FAWPPAPEAV PSLLDLPEA DTVVVPDSSN WQMGYDPI
101 YNTYPTITV NPPVPTEPH HHPGGRQMH GYDAELRLYR RHGSGSPSR
151 HPRHAEGFTT SDVSSYLEGQ AAKEFIAMLV KORG

IIAA SEQUENCE 1.0
ID AAB26773 standard; Protein; 180 AA.

XX AAB26773;
AC
XX
DT 17-JAN-2001 (first entry)
XX
DE Rat preproglucagon amino acid sequence.

XX Amylin; production; secretory cell; blood glucose level regulation;
KW diabetes mellitus; hypoglycaemia; osteoporosis; Paget's disease;
KW hypercalcaemia; obesity; hypertension.
XX

OS Rattus sp.

XX US6110707-A.

PN
XX 29-AUG-2000.

PD
XX 17-JAN-1997; 9TUS-0784582.

PF
XX 11-OCT-1996; 9GUS-0028279.

PR
XX 19-JAN-1996; 9GUS-0589028.

XX (TEXA) UNIV TEXAS SYSTEM.
XX (BETA-) BETAGENE INC.

XX Newgard CB, Halban P, Normington KD, Thigpen AE, Quaade C;
PI Kruse F, McGarry D, Clark SA;

XX WPI; 2000-586352/55.
DR N-PSDB; AAC55762.

XX Producing mammalian amylin, useful for regulating blood glucose and
PT insulin levels, e.g. for treating diabetes mellitus or hypoglycemia, by
PT employing recombinantly engineered secretory cell lines
XX Example 10; Column 175-176; 136pp; English.

XX This invention relates to a method for producing mammalian amylin. The
XX method relies on the use of a recombinantly engineered secretory cell
XX line. The method comprises:
CC (a) providing a starting secretory cell that has a regulated secretory
CC pathway;
CC (b) introducing, into the starting secretory cell, an amylin-encoding
CC gene operatively linked to a first promoter;
CC (c) selecting a secretory cell of (b) that exhibits increased production
CC of biologically active amylin as compared to the starting secretory
CC cell; and (d) culturing the selected secretory cell.

XX Amylin is an insulin modulator, and the method results in antidiabetic,
XX hypotensive and osteopathic activity. The amylin produced are useful
XX for regulating blood glucose levels, as well as in modulating the
XX circulating levels of insulin in a mammal. The amylin produced maybe
XX used in treating diabetes mellitus, hypoglycaemia, osteoporosis, Paget's
XX disease, hypercalcaemia, obesity, hypertension, or any other disorder
XX requiring amylin regulation. The invention includes cDNA and protein
XX sequences (AAC55760 and AAB26771) representing human amylin. Sequences
XX AAC55716-C55681 and AAB26765-826777 are used in examples of the method of
XX the invention for the production of mammalian amylin.

XX Sequence 180 AA;

AAB26773 Length: 180 January 22, 2004 18:02 Type: P Check: 8911 ..

1 MKTVIVAGL FVNLVQGSWQ HAPQDTENA RSPFASQTEP LEDPQIHEH

51 KRHSQGTFTS DYSKYLDGRR AQDFVQWLMN TKRNRRNIAR RHDEPERHAE

101 GTTSDVSSY LEGQAAKEFI AWLVKGRGER DPPEVAIAE ELGRRHADGS
151 FSDENMTILD NLAATDFINW LIQTKITDKK

!!IAA SEQUENCE 1.0
ID AAB26774 standard; Protein; 180 AA.
XX
AC AAB26774;
XX
DT 17-JAN-2001 (first entry)
XX
DE Human preproglucagon amino acid sequence.
XX
KW Amylin; production; secretory cell; blood glucose level regulation;
KW diabetes mellitus; hypoglycaemia; osteoporosis; Paget's disease;
XX hypercalcaemia; obesity; hypertension.
XX
OS Homo sapiens.
XX
PN US6110707-A.
XX
PD 29-AUG-2000.
XX
PF 17-JAN-1997; 97US-0784582.
XX
PR 11-OCT-1996; 96US-0028279.
PR 19-JAN-1996; 96US-0589028.
XX
PA (TEXA) UNIV TEXAS SYSTEM.
PA (BETA-) BETAGENE INC.
XX
PI Newgard CB, Halban P, Normington KD, Thigpen AE, Quaade C;
PI Kruse F, McGarry D, Clark SA;
XX
DR WPI; 2000-586352/55.
DR N-PSDB; AAC55763.
XX
XX Producing mammalian amylin, useful for regulating blood glucose and
PT insulin levels, e.g. for treating diabetes mellitus or hypoglycemia, by
PT employing recombinantly engineered secretory cell lines -
XX
XX Example 10; Column 177-178; 136pp; English.
XX
XX This invention relates to a method for producing mammalian amylin. The
CC method relies on the use of a recombinantly engineered secretory cell
CC line. The method comprises:
CC (a) providing a starting secretory cell that has a regulated secretory
CC pathway;
CC (b) introducing, into the starting secretory cell, an amylin-encoding
CC gene operatively linked to a first promoter;
CC (c) selecting a secretory cell of (b) that exhibits increased production
CC of biologically active amylin as compared to the starting secretory
CC cell; and (d) culturing the selected secretory cell.
CC Amylin is an insulin modulator, and the method results in antidiabetic,
CC hypotensive and osteopathic activity. The amylin produced are useful
CC for regulating blood glucose levels, as well as in modulating the
CC circulating levels of insulin in a mammal. The amylin produced maybe
CC used in treating diabetes mellitus, hypoglycaemia, osteoporosis, Paget's
CC disease, hypercalcaemia, obesity, hypertension, or any other disorder
CC requiring amylin regulation. The invention includes cDNA and protein
CC sequences (AAC55760 and AAB26771) representing human amylin. Sequences
CC AAC55716-C55681 and AAB26765-B26777 are used in examples of the method of
CC the invention for the production of mammalian amylin.
XX
SQ Sequence 180 AA;

AAB26774 Length: 180 January 22, 2004 18:02 Type: P Check: 9748

1 MKSIYFVAGL FVMLVQSGWQ RSLQDTTEKS RSPFASQADP LSDPDQNNED
51 KRHSQGTFTS DYSKYLDSSR AQDFVQWLMN TKRNRRNNIAK RHDEFERHAE

101 GTTSDVSSY LEGQAAKEFI AWLVKGRGER DPPEVAIAE ELGRRHADGS
151 FSDENMTILD NLAATDFINW LIQTKITDKK

!!IAA SEQUENCE 1.0
ID AAB26775 standard; Protein; 180 AA.
XX
AC AAB26775;
XX
DT 17-JAN-2001 (first entry)
XX
DE Mutant human preproglucagon amino acid sequence.
XX
KW Amylin; production; secretory cell; blood glucose level regulation;
KW diabetes mellitus; hypoglycaemia; osteoporosis; Paget's disease;
XX hypercalcaemia; obesity; hypertension.
XX
OS Homo sapiens.
XX
PN US6110707-A.
XX
PD 29-AUG-2000.
XX
PF 17-JAN-1997; 97US-0784582.
XX
PR 11-OCT-1996; 96US-0028279.
PR 19-JAN-1996; 96US-0589028.
XX
PA (TEXA) UNIV TEXAS SYSTEM.
PA (BETA-) BETAGENE INC.
XX
PI Newgard CB, Halban P, Normington KD, Thigpen AE, Quaade C;
PI Kruse F, McGarry D, Clark SA;
XX
DR WPI; 2000-586352/55.
DR N-PSDB; AAC55765.
XX
XX Producing mammalian amylin, useful for regulating blood glucose and
PT insulin levels, e.g. for treating diabetes mellitus or hypoglycemia, by
PT employing recombinantly engineered secretory cell lines -
XX
XX Example 10; Column 179-182; 136pp; English.
XX
XX This invention relates to a method for producing mammalian amylin. The
CC method relies on the use of a recombinantly engineered secretory cell
CC line. The method comprises:
CC (a) providing a starting secretory cell that has a regulated secretory
CC pathway;
CC (b) introducing, into the starting secretory cell, an amylin-encoding
CC gene operatively linked to a first promoter;
CC (c) selecting a secretory cell of (b) that exhibits increased production
CC of biologically active amylin as compared to the starting secretory
CC cell; and (d) culturing the selected secretory cell.
CC Amylin is an insulin modulator, and the method results in antidiabetic,
CC hypotensive and osteopathic activity. The amylin produced are useful
CC for regulating blood glucose levels, as well as in modulating the
CC circulating levels of insulin in a mammal. The amylin produced maybe
CC used in treating diabetes mellitus, hypoglycaemia, osteoporosis, Paget's
CC disease, hypercalcaemia, obesity, hypertension, or any other disorder
CC requiring amylin regulation. The invention includes cDNA and protein
CC sequences (AAC55760 and AAB26771) representing human amylin. Sequences
CC AAC55716-C55681 and AAB26765-B26777 are used in examples of the method of
CC the invention for the production of mammalian amylin.
XX
SQ Sequence 180 AA;

AAB26775 Length: 180 January 22, 2004 18:02 Type: P Check: 8864

1 MKSIYFVAGL FVMLVQSGWQ RSLQDTTEKS RSPFASQADP LSDPDQNNED
51 KAHSQGTFTS DYSKYLDSSR AQDFVQWLMN TKRNRRNNIAK RHDEFERHAE
101 GTTSDVSSY LEGQAAKEFI AWLVKGRGER DPPEVAIAE ELGRRHADGS

151 FSDMTNLTDL NLAARDPFINW LIQTKITDRK

!!AA SEQUENCE 1.0

ID AAB26777 standard; Protein; 360 AA.

AC AAB26777;

DT 17-JAN-2001 (first entry)

DE Human growth hormone and mutated proglucagon fusion protein.

XX Amylin; production; secretory cell; blood glucose level regulation;
XX diabetes mellitus; hypoglycaemia; osteoporosis; Paget's disease;
XX hypercalcaemia; obesity; hypertension.

OS Homo sapiens.

PN US6110707-A.

XX 29-AUG-2000.

XX 17-JAN-1997; 97US-0784582.

XX 11-OCT-1996; 96US-0028279.

XX 19-JAN-1996; 96US-0589028.

XX (TEXA) UNIV TEXAS SYSTEM.

PA (BETA-) BETAGENE INC.

XX Newgard CB, Halban P, Normington KD, Thigpen AE, Quaade C;

PI Kruse F, McGarry D, Clark SA;

PI WPI; 2000-586352/55.

XX N-PSDB; AAC55775.

XX Producing mammalian amylin, useful for regulating blood glucose and

PT insulin levels, e.g. for treating diabetes mellitus or hypoglycaemia, by

PT employing recombinantly engineered secretory cell lines -

XX Example 12; Column 189-192; 136pp; English.

XX This invention relates to a method for producing mammalian amylin. The

CC method relies on the use of a recombinantly engineered secretory cell

CC line. The method comprises:

CC (a) providing a starting secretory cell that has a regulated secretory

CC pathway;

CC (b) introducing, into the starting secretory cell, an amylin-encoding

CC gene operatively linked to a first promoter;

CC (c) selecting a secretory cell of (b) that exhibits increased production

CC of biologically active amylin as compared to the starting secretory

CC cell; and (d) culturing the selected secretory cell.

CC Amylin is an insulin modulator, and the method results in antidiabetic,

CC hypotensive and osteopathic activity. The amylin produced are useful

CC for regulating blood glucose levels, as well as in modulating the

CC circulating levels of insulin in a mammal. The amylin produced maybe

CC used in treating diabetes mellitus, hypoglycaemia, osteoporosis, Paget's

CC disease, hypercalcaemia, obesity, hypertension, or any other disorder

CC requiring amylin regulation. The invention includes cDNA and protein

151 MGRLEDGSPR TGOIFKQYTS KPDNTSHNDD ALLKNYGLLY CFRKMDKWO

201 RSLQDTEERS RSPSASQADP LSDPDQWVED KHSQGTFTS DYSKYLDSE

251 AODFVQWLMN TKRNRNIAK RHDSFERHAE GTFTSDVSSY LEGQAKKEFI

301 AWLVKGRGR DPPEVAIVE ELGRRHADGS FSDMTNLTDL NLAARDPFINW

351 LIQTKITDRK

!!AA SEQUENCE 1.0

ID AAB11889 standard; peptide; 31 AA.

XX AAB11889;

XX 14-NOV-2000 (first entry)

XX Shelf-stable glucagon-like peptide-1 (GLP-1) analogue.

XX Glucagon-like peptide-1; GLP-1 analogue; insulin secretion regulator;
XX insulin expression enhancer; shelf stable formulation;
XX drug delivery; continuous infusion system; pen delivery device;
XX type II diabetes; non insulin dependent diabetes.

OS Synthetic.

OS Mammalia.

XX WO200037098-A1.

XX 29-JUN-2000.

XX 21-DEC-1999; 99WO-US30395.

XX 22-DEC-1998; 98US-0113499.

XX (ELIL) LILLY & CO ELI.

XX Brader ML, Pekar AH;

XX WPI; 2000-442534/38.

XX Shelf-stable pharmaceutical formulation useful for treating diabetes
XX comprises glucagon-like peptide-1 molecule, preservative and tonicity
XX modifier -

XX Claim 7; Page - 27pp; English.

XX The invention relates to a shelf-stable glucagon-like peptide-1 (GLP-1)
XX formulation comprising a GLP-1 molecule, a preservative and a tonicity
XX modifier and has a pH of 8.2-8.8. GLP-1 regulates insulin secretion in
XX response to glucose, enhancing the expression of insulin in a mammalian
XX pancreatic beta-type islet cell, and thus has the ability to normalise
XX blood glucose levels. There has therefore been considerable interest in
XX the use of GLP-1 for the treatment of type II (non insulin dependent)
XX diabetes, and it has been shown that doses in the 1-5 nanomole range
XX exhibit few side effects, and that GLP-1 is effective in patients that
XX have secondary failure to sulphonylurea drugs. However, GLP-1 peptides
XX have poor long term stability, a fairly short biological half-life and
XX are highly soluble in aqueous solutions such as neutral phosphate
XX buffered saline, which limits their use in continuous infusion systems
XX and pen delivery devices. The formulation of the invention has increased
XX physical and chemical stability relative to conventional peptide
XX formulations, which enables it to be used in such delivery devices. One
XX embodiment of the invention also comprises a long-acting diabetic agent,
XX thus providing meal-time glycaemic control and basal glycaemic control
XX with a single injection. The present sequence represents a specific
XX GLP-1 analogue which may be used in the formulation of the invention.
XX Note: The present sequence is not shown in the specification, but is
XX derived from the generic SEQ ID NO:2 (AAB11888) and the information
XX provided on page 17 (claim 7).

XX Sequence 31 AA;

XX SQ

AAB26777 Length: 360 January 22, 2004 18:02 Type: P Check: 8646 ..

1 MATSGRTSLL LAFGLLLCPW LQEGSAFPTI PLSRLFDNAM LRAHLHLQA

51 FDTYQEFEEA YIPKEQKYP LQNPQSLCF SESIPTPSNR EETQOKSNLE

101 LLRISLLLIQ SWLEPVQFLR SVFANSLVYG ASDSNVYDLL KDLREGIQTL

AAB11889 Length: 31 January 22, 2004 18:02 Type: P Check: 7403

1 HVEGTFSDV SSYLEGQAK EPIANLVKGR G

!!AA SEQUENCE 1.0

ID_AAY96846 standard; Protein; 127 AA.

XX AC AAY96846;

XX DT 26-SEP-2000 (first entry)

XX DE PCpB-QAR-V8-GLIP fusion protein.

XX PCpB; propeptide; procaboxypeptidase B; fusion protein; beta-lipotropin;
XX BLT; hPTH (1-34); human parathyroid hormone; V8-GLIP; analgesic;
XX glucagon-like insulinotropic peptide; heterologous protein production;
XX melanin synthesis; glucocorticoid release; trypsin.

XX OS Chimeric - Sus scrofa.

XX OS Chimeric - Homo sapiens.

XX OS Chimeric - Synthetic.

XX FH Key Location/Qualifiers

XX FT Peptide 1..93

XX FT /label= Porcine_Procboxypeptidase-B_propeptide

XX FT Cleavage-site 94..96

XX FT /notes="trypsin cleavage site"

XX FT Protein 97..127

XX FT /label= Human_glucagon-like_insulinotropic_peptide

XX FN WO200037615-A1.

XX XX 29-JUN-2000.

XX PF 15-DEC-1999; 99WO-US29837.

XX PR 21-DEC-1998; 98US-0113058.

XX PA (ELIL) LILLY & CO ELI.

XX PI Hale JE, Hersberger CL, Larson JL, Menke MA;

XX DR WPI; 2000-442656/38.

XX DR N-PSDB; AAA51465.

XX PT Novel methods and nucleic acids for producing fusion proteins

XX PT comprising a procaboxypeptidase B propeptide sequence

XX PS Disclosure; Page 102; 120pp; English.

XX CC Novel fusion proteins comprise a propeptide sequence of (porcine)
XX CC procaboxypeptidase B (PCpB). The fusion proteins can be used for
XX CC producing, e.g. human beta-lipotropin (BLT) and other peptides in
XX CC Escherichia coli and yeast. The PCpB sequence provides solubility to the
XX CC fusion proteins, induces a high level of fusion protein expression, and
XX CC enhances the heat stability of the fusion protein. This is advantageous
XX CC because BLT and other small peptides are difficult to purify from whole
XX CC tissues. BLT is derived from pro-opiomelanocortin (POMC) a neuropeptide
XX CC cleaved by specific endopeptidases. POMC also yields beta-endorphin,
XX CC adrenocorticotrophic hormone and melanocyte stimulating hormone.
XX CC POMC-derived peptides have important roles in metabolic and physiological
XX CC regulation, including secretion of glucocorticoids, stimulating melanin
XX CC synthesis, fat metabolism and analgesic activity. The fusion proteins may
XX CC be produced in a fungal fusion system that additionally comprise fusion
XX CC partners, such as the alpha-mating factor (AMF), propeptide, human serum
XX CC albumin (HSA) and any other sequence that promotes expression and
XX CC secretion of the fusion protein, and subsequent cleavage (during
XX CC culture medium. The heterologous protein is especially BLT, human
XX CC parathyroid hormone (hPTH) (residues 1-34) and V8-GLIP
XX CC (glucagon-like insulinotropic peptide) (claimed).

XX Sequence 127 AA;

AAY96846 Length: 127 January 22, 2004 18:02 Type: P Check: 1278

1 MHSGEHFEG EKVPRVNVED ENDISLHEL ASTROIDFWK PSDVTDIKPH

51 STVDPRVKAE DILAVEDELE QNELOYEVL NNLRSVLEAQ PSDQSHVAG

101 TTTSDVSSYL EQQAKAFIA WLKGRG

!!AA SEQUENCE 1.0

ID_AAY96847 standard; Protein; 128 AA.

XX AC AAY96847;

XX DT 26-SEP-2000 (first entry)

XX DE PCpB-LVPR-V8-GLIP fusion protein.

XX PCpB; propeptide; procaboxypeptidase B; fusion protein; beta-lipotropin;
XX BLT; hPTH (1-34); human parathyroid hormone; V8-GLIP; analgesic;
XX glucagon-like insulinotropic peptide; heterologous protein production;
XX melanin synthesis; glucocorticoid release; trypsin; thrombin.

XX OS Chimeric - Sus scrofa.

XX OS Chimeric - Homo sapiens.

XX OS Chimeric - Synthetic.

XX FH Key Location/Qualifiers

XX FT Peptide 1..93

XX FT /label= Porcine_Procboxypeptidase-B_propeptide

XX FT Cleavage-site 94..97

XX FT /notes="trypsin cleavage site"

XX FT Protein 98..128

XX FT /label= Human_glucagon-like_insulinotropic_peptide

XX FN WO200037615-A1.

XX XX 29-JUN-2000.

XX PF 15-DEC-1999; 99WO-US29837.

XX PR 21-DEC-1998; 98US-0113058.

XX PA (ELIL) LILLY & CO ELI.

XX PI Hale JE, Hersberger CL, Larson JL, Menke MA;

XX DR WPI; 2000-442656/38.

XX DR N-PSDB; AAA51466.

XX PT Novel methods and nucleic acids for producing fusion proteins

XX PT comprising a procaboxypeptidase B propeptide sequence

XX PS Disclosure; Page 103-104; 120pp; English.

XX CC Novel fusion proteins comprise a propeptide sequence of (porcine)
XX CC procaboxypeptidase B (PCpB). The fusion proteins can be used for
XX CC producing, e.g. human beta-lipotropin (BLT) and other peptides in
XX CC Escherichia coli and yeast. The PCpB sequence provides solubility to the
XX CC fusion proteins, induces a high level of fusion protein expression, and
XX CC enhances the heat stability of the fusion protein. This is advantageous
XX CC because BLT and other small peptides are difficult to purify from whole
XX CC tissues. BLT is derived from pro-opiomelanocortin (POMC) a neuropeptide
XX CC cleaved by specific endopeptidases. POMC also yields beta-endorphin,
XX CC adrenocorticotrophic hormone and melanocyte stimulating hormone.
XX CC POMC-derived peptides have important roles in metabolic and physiological
XX CC regulation, including secretion of glucocorticoids, stimulating melanin
XX CC synthesis, fat metabolism and analgesic activity. The fusion proteins may
XX CC be produced in a fungal fusion system that additionally comprise fusion
XX CC partners, such as the alpha-mating factor (AMF), propeptide, human serum
XX CC albumin (HSA) and any other sequence that promotes expression and
XX CC secretion of the fusion protein, and subsequent cleavage (during
XX CC culture medium. The heterologous protein is especially BLT, human
XX CC parathyroid hormone (hPTH) (residues 1-34) and V8-GLIP
XX CC (glucagon-like insulinotropic peptide) (claimed).

CC culture medium. The heterologous protein is especially BLT, human
CC parathyroid hormone (hPTH) (residues 1-34) and V8-GLIP
CC (glucagon-like insulinotropic peptide) (claimed).
XX
SQ Sequence 128 AA;

AA96847 Length: 128 January 22, 2004 18:02 Type: P Check: 3743 ..
1 MHSGEHFEG EKVRVNVED ENDISLHEL ASTRQIDFWK PDSVTOIKPH
51 STVDFRVKAE DILAVEFDLE QNELQVEVLI NNLSRVLEAQ FDSLVRHVE
101 GTFTSDVSSY LEQQAKEFI AMLVKGRG

!!AA SEQUENCE 1.0
ID AAY53277 standard; peptide; 31 AA.
XX
AC AAY53277;
XX
DT 24-JUL-2000 (first entry)
XX
DE Glucagon-like peptide-1 analogue #1.
XX
KW Human; glucagon-like peptide-1; GLP-1; stroke; blood glucose;
KW diabetes; non-insulin dependent diabetes; NIDDM; insulinotropic;
KW cardioactive; antidiabetic; cerebroprotective.
XX
OS Homo sapiens.
XX
PN WO200016797-A2.
XX
PD 30-MAR-2000.
XX
PF 22-SEP-1999; 99WO-US22026.
XX
PR 24-SEP-1998; 98US-0101719.
XX
PA (ELIL) LILLY & CO ELI.
XX
PI Efendic S;
XX
DR WPI; 2000-283446/24.
XX
PT Reducing mortality and morbidity following strokes by administering
PT glucagon like peptides -
PS Disclosure; Page 6; 36pp; English.
XX
CC A method (I) has been developed for reducing mortality and morbidity
CC following a stroke. The method comprises administering glucagon-like
CC peptides (GLP)-1, GLP-1 analogues, GLP-1 derivatives and/or salts of
CC GLP-1, in a dose sufficient to normalise blood glucose levels. (I) may
CC be used for reducing morbidity and mortality following strokes by
CC controlling hypoglycaemia. The method is particularly suitable for
CC treating non-insulin dependent diabetes (NIDDM), those at risk of
CC stroke or those who have on-going or recurring strokes. The method
CC reduces morbidity and mortality in diabetics after strokes, for example,
CC by effecting smaller infarct size. Treatment using (I) in NIDDM compared
CC to combined treatment with infusions of insulin and glucose avoids
CC inconvenient and expensive monitoring of blood glucose as well as
CC interpretation of blood glucose results and adjustment of insulin dose
CC rate. The treatments also avoid the risk of hypoglycaemia that
CC accompanies insulin infusion. Although GLP-1 has a short half life the
CC need for continuous administration is not disadvantageous as the
CC patient is typically bed ridden in an intensive care unit where fluids
CC can be continuously administered parenterally. (I) can be used to treat
CC all patients with hypoglycaemia irrespective of whether they are
CC diagnosed as diabetic. Pre-existing hyperglycaemia is rectified and
CC new-onset hyperglycaemia is prevented. The present sequence represents
CC a GLP-1 analogue which is given in the exemplification of the present
CC invention.
XX
SQ Sequence 31 AA;

AA53277 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
1 HAEGTFTSDV SSYLEGQAAK EPIAHLVKGR G

!!AA SEQUENCE 1.0
ID AAY83149 standard; peptide; 31 AA.
XX
AC AAY83149;
XX
DT 24-JUL-2000 (first entry)
XX
DE Glucagon-like peptide-1.
XX
KW Glucagon-like peptide-1; GLP-1; treatment; pulmonary; inhalation;
KW lungs; diabetes; hyperglycaemia.
XX
OS Synthetic.
XX
PN WO200012116-A1.
XX
PD 09-MAR-2000.
XX
PF 24-AUG-1999; 99WO-US19348.
XX
PR 28-AUG-1998; 98US-0098273.
PR 11-SEP-1998; 98US-0100012.
XX
PA (ELIL) LILLY & CO ELI.
XX
PI Hughes BL, Wolff RK;
XX
DR WPI; 2000-237776/20.
XX
PT Administration of glucagon-like peptide-1 molecule by pulmonary means,
PT useful for treating diabetes and hyperglycemia
XX
PS Example 1; Page 43; 45pp; English.
XX
CC Administration of a glucagon-like peptide-1 (GLP-1) molecule by
CC inhalation can be used to treat diabetes and hyperglycemia.
CC Analogs and derivatives of the GLP-1 molecule can also be used in
CC the treatment method. The GLP-1 molecule can be reproducibly and
CC effectively delivered through the lungs.
XX
SQ Sequence 31 AA;

AA83149 Length: 31 January 22, 2004 18:02 Type: P Check: 7403 ..
1 HVEGTFTSDV SSYLEGQAAK EPIAHLVKGR G

!!AA SEQUENCE 1.0
ID AAY78950 standard; peptide; 31 AA.
XX
AC AAY78950;
XX
DT 05-JUN-2000 (first entry)
XX
DE Glucagon-like peptide-1 fragment GLP-1 (7-37).
XX
KW Glucagon-like peptide-1; GLP-1; insulin producing cell; insulin; amylase;
KW diabetes mellitus type 1; human; livestock; pet.
XX
OS Homo sapiens.
XX
PN WO200009666-A2.
XX
PD 24-FEB-2000.
XX
PF 10-AUG-1999; 99WO-US18099.
XX
PR 10-AUG-1998; 98US-0095917.
XX

PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
 XX Egan J, Perfetti R, Passaniti A, Greig N, Holloway H;
 XX WPI; 2000-205999/18.
 XX Differentiation of non-insulin producing cells into insulin-producing
 PT cells by glucagon-like peptide-1 or extendin-4, used to treat diabetes
 PT mellitus
 XX
 XX Disclosure; Page 16; 119pp; English.
 XX
 XX This sequence represents a glucagon-like peptide-1 (GLP-1) fragment.
 CC GLP-1 is a hormone normally secreted by neuroendocrine cells of the gut,
 CC in response to food. GLP-1 fragments or Extendin-4 growth factor
 CC fragments can be used in the production of a population of
 CC insulin-producing cells from a population of non-insulin producing cells.
 CC The methods may also be used to promote pancreatic amylase producing
 CC cells to produce both insulin and amylase. The methods are used to treat
 CC diabetes mellitus (type 1) in humans, domesticated animals, livestock and
 CC pets.
 XX
 XX Sequence 31 AA;
 SQ
 AAY78950 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
 1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
 IIAA SEQUENCE 1.0
 ID -AAY67372 standard; peptide, 31 AA.
 AC AAY67372;
 DT 25-APR-2000 (first entry)
 XX
 XX Glucagon-like peptide-1 (7-37) amino acid sequence.
 DE
 XX
 KW Glucagon-like peptide-1; GLP-1; enteric peptide; incretin hormone;
 KW impaired glucose tolerance; insulin secretion regulator; cerebrovascular;
 KW cardiovascular event; pancreatic beta-cell response.
 XX
 OS Mammalia sp.
 XX
 XX WO9964061-A1.
 XX
 PD 16-DEC-1999.
 XX
 PF 07-MAY-1999; 99WO-US10040.
 XX
 PR 12-JUN-1998; 98US-0089044.
 XX
 XX (BION-) BIONEERASKA INC.
 PA
 PI Goke B, Byrne M;
 XX
 XX WPI; 2000-126441/11.
 XX
 XX Novel glucagon-like peptide-1 used to improve the pancreatic beta-cell
 PT response to glucose
 XX
 XX Disclosure; Page 25; 46pp; English.
 PS
 XX
 XX This sequence represents a glucagon-like peptide-1 (GLP-1 7-37) which is
 CC used in the method of the invention. GLP-1 is a natural enteric peptide
 CC secreted from the L-cells of the gut, and acts as an incretin hormone
 CC stimulating pancreatic beta cells to secrete insulin in a glucose
 CC dependent manner. The application of a novel GLP-1 in subjects with
 CC impaired glucose tolerance (IGT) re-establishes the tightly coordinated
 CC response of insulin secretion to increases in plasma glucose levels. The
 CC invention can be used in therapeutic treatment for normalising impaired
 CC glucose tolerance. Administration of GLP-1 also regulates or normalises
 CC insulin secretion patterns which will result in overall reduction of

CC plasma insulin in impaired glucose tolerance (IGT). This normalisation
 CC will in turn reduce the condition of insulin resistance. The effective
 CC treatment of IGT also decreases the risk of cardiovascular and
 CC cerebrovascular events. It can therefore be provided as a preventative to
 CC patients of known high risk for such events. Antibodies against GLP-1 can
 CC be used to identify GLP-1 like peptides for use in the methods of the
 CC invention.
 XX
 XX Sequence 31 AA;
 SQ
 AAY67372 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
 1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
 IIAA SEQUENCE 1.0
 ID -AAY67374 standard; peptide, 37 AA.
 AC AAY67374;
 XX
 XX 25-APR-2000 (first entry)
 DT
 XX
 XX Glucagon-like peptide-1 (1-37) amino acid sequence.
 DE
 XX
 KW Glucagon-like peptide-1; GLP-1; enteric peptide; incretin hormone;
 KW impaired glucose tolerance; insulin secretion regulator; cerebrovascular;
 KW cardiovascular event; pancreatic beta-cell response.
 XX
 OS Mammalia sp.
 XX
 XX WO9964061-A1.
 XX
 PD 16-DEC-1999.
 XX
 PF 07-MAY-1999; 99WO-US10040.
 XX
 PR 12-JUN-1998; 98US-0089044.
 XX
 XX (BION-) BIONEERASKA INC.
 PA
 PI Goke B, Byrne M;
 XX
 XX WPI; 2000-126441/11.
 XX
 XX Novel glucagon-like peptide-1 used to improve the pancreatic beta-cell
 PT response to glucose
 XX
 XX Disclosure; Page 9; 46pp; English.
 PS
 XX
 XX This sequence represents a glucagon-like peptide-1 (GLP-1 1-37) which is
 CC used in the method of the invention. GLP-1 is a natural enteric peptide
 CC secreted from the L-cells of the gut, and acts as an incretin hormone
 CC stimulating pancreatic beta cells to secrete insulin in a glucose
 CC dependent manner. The application of a novel GLP-1 in subjects with
 CC impaired glucose tolerance (IGT) re-establishes the tightly coordinated
 CC response of insulin secretion to increases in plasma glucose levels. The
 CC methods, compositions and glucagon-like peptide-1 (GLP-1) of the
 CC invention can be used in therapeutic treatment for normalising impaired
 CC glucose tolerance. Administration of GLP-1 also regulates or normalises
 CC treatment of IGT also decreases the risk of cardiovascular and
 CC cerebrovascular events. It can therefore be provided as a preventative to
 CC patients of known high risk for such events. Antibodies against GLP-1 can
 CC be used to identify GLP-1 like peptides for use in the methods of the
 CC invention.
 XX
 XX Sequence 37 AA;
 SQ
 AAY67374 Length: 37 January 22, 2004 18:02 Type: P Check: 2897
 1 HDEFERHAEG TPTSDVSSYL EGQAKEPIA WLKVRG

```

!!IAA_SEQUENCE 1.0
ID ABG71251 standard; Peptide; 37 AA.
AC ABG71251;
XX
DT 16-DEC-2002 (first entry)
XX
DE Human glucagon-like peptide-1 (GLP-1) peptide #1.
XX
KW Glucagon-like peptide-1; GLP-1; insulinotropic response; neurotropic;
KW ischaemia injured brain cell; insulin; neuroprotective; hypoglycaemia;
KW stroke-related hyperglycaemia; cerebroprotective; insulin-stimulator;
KW stroke; human.
XX
OS Homo sapiens.
XX
PN US6429197-B1.
XX
PD 06-AUG-2002.
XX
PF 30-APR-1999; 99US-0303016.
XX
PR 08-OCT-1998; 98US-103498P.
XX
PA (BION-) BIONEERASKA INC.
XX
PI Coolidge TR, Ehlers MRW;
XX
WPI; 2002-739470/80.
XX
New use of glucagon-like peptide-1 (GLP-1) to increase insulinotropic
responses in ischaemia injured brain cells to treat e.g. stroke -
Disclosure; Column 5; 9pp; English.
XX
The present invention relates to a new method for increasing
insulinotropic responses in ischaemia injured brain cells. The method
involves administering a composition containing glucagon-like peptide-1
(GLP-1) and a carrier, where the produced insulin is neuroprotective by
direct neurotropic effects and by controlling stroke-related
hyperglycaemia. The method is useful for increasing insulinotropic
responses in ischaemic injured brain cells e.g. caused by stroke, by
promoting a neuroprotective effect. The invention can maintain mild
hypoglycaemia with no risk of severe hypoglycaemia. The present amino
acid sequence represents a human GLP-1 peptide as described by the
invention.
XX
Sequence 37 AA;
XX
ABG71251 Length: 37 January 22, 2004 18:02 Type: P Check: 2897
XX
1 HDEPERHAEG TETSDVSSYL EQQAKEFIA WLKVRG
XX
!!IAA_SEQUENCE 1.0
ID ABG71253 standard; Peptide; 31 AA.
XX
AC ABG71253;
XX
DT 30-OCT-2002 (first entry)
XX
DE Human glucagon-like peptide-1 related peptide, Val8-GIP-1 (7-37) OH.
XX
KW Human; pharmaceutical composition; diabetes; hyperglycaemia; obesity;
KW irritable bowel syndrome; glucagon-like peptide-1 related peptide;
KW Val8-GIP-1 (7-37) OH; anorectic; antiinflammatory.
XX
OS Homo sapiens.
XX
OS Synthetic.
XX
PN WO200247715-A2.
XX
PD 20-JUN-2002.
XX
PF 06-DEC-2001; 2001WO-US43188.
XX
PR 13-DEC-2000; 2000US-255251P.
XX
PA (ELIL) LILLY & CO ELI.
XX
PI Dodd SW, Rinella JUV, Watts EA, Ng K;
XX
WPI; 2002-519754/55.
XX
Pharmaceutical composition useful in the treatment of e.g. diabetes
comprises crystals of peptide, glycine, zinc, alcohol, a buffer and a
preservative -
XX
Example 1; Page 68; 68pp; English.
XX
The invention relates to a pharmaceutical composition which comprises
crystals of a peptide, glycine, zinc, alcohol, a buffer and a
preservative. The invention is used in the manufacture of a medicament
for the treatment of diabetes, hyperglycaemia and obesity in a mammal;

```


CC for treating human or animal by therapy. The invention is also used for
 CC treating irritable bowel syndrome. The present sequence is a human
 CC glucagon-like peptide-1 related peptide, Val8- (GLP-1 (7-37) OH).
 XX
 SQ Sequence 31 AA;

AAE25338 Length: 31 January 22, 2004 18:02 Type: P Check: 7403

1 HVEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA SEQUENCE 1.0
 ID -AAE25339 standard; peptide; 31 AA.
 XX
 AC AAE25339;
 DT 30-OCT-2002 (first entry)
 DE Human glucagon-like peptide-1 related peptide GLP-1 (7-37) OH.
 XX
 KW Human; pharmaceutical composition; diabetes; hyperglycaemia; obesity;
 KW irritable bowel syndrome; glucagon-like peptide-1 related peptide;
 KW GLP-1 (7-37) OH; anorectic; antiinflammatory.
 XX
 OS Homo sapiens.
 OS Synthetic.
 XX
 PN WO200247715-A2.
 XX
 PD 20-JUN-2002.

XX
 PF 06-DEC-2001; 2001WO-US43188.
 XX
 PR 13-DEC-2000; 2000US-255251P.
 XX
 PA (ELIL) LILLY & CO ELI.
 XX
 PI Dodd SW, Rinella JVJ, Watts EA, Ng K;
 XX
 DR WPI; 2002-519754/55.
 XX
 PT Pharmaceutical composition useful in the treatment of e.g. diabetes
 PT comprises crystals of peptide, glycine, zinc, alcohol, a buffer and a
 PT preservative.
 XX
 PS Disclosure; Page 68; 68pp; English.

XX
 CC The invention relates to a pharmaceutical composition which comprises
 CC crystals of a peptide, glycine, zinc, alcohol, a buffer and a
 CC preservative. The invention is used in the manufacture of a medicament
 CC for the treatment of diabetes, hyperglycaemia and obesity in a mammal;
 CC for treating human or animal by therapy. The invention is also used for
 CC treating irritable bowel syndrome. The present sequence is a human
 CC glucagon-like peptide-1 related peptide (GLP-1 (7-37) OH).
 XX
 SQ Sequence 31 AA;

AAE25339 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HVEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA SEQUENCE 1.0
 ID -AAO22093 standard; Peptide; 31 AA.
 XX
 AC AAO22093;
 DT 11-OCT-2002 (first entry)
 DE Glucagon-like peptide-1 (GLP-1), SEQ ID No 7.
 XX
 KW Antidiabetic; anorectic; crystal; diabetes; hyperglycaemia; obesity;
 KW glucagon-like peptide-1; GLP-1.
 XX
 OS Synthetic.

XX WO200248183-A2.
 XX
 PD 20-JUN-2002.
 XX
 PF 06-DEC-2001; 2001WO-US43188.
 XX
 PR 13-DEC-2000; 2000US-255251P.
 XX
 PA (ELIL) LILLY & CO ELI.
 XX
 XX Dodd SW, Millican RL, Rinella JVJ;
 PI WPI; 2002-557606/59.
 XX
 DR New peptide crystals useful in the treatment of e.g. diabetes
 XX
 PT Claim 1; Page 14; 103pp; English.
 XX
 CC The invention relates to the provision of novel crystals of selected
 CC peptides and compositions thereof. The invention also provides stable
 CC pharmaceutical compositions comprising crystals of selected peptide,
 CC glycine, an alcohol, zinc, a buffer and a pharmaceutically acceptable
 CC preservative at a pH of about 5.0 to about 8.5. The novel crystals are
 CC useful in the preparation of a medicament for the treatment of diabetes,
 CC hyperglycaemia and obesity. The novel peptides have a reduced propensity
 CC to self-associate or aggregate, and exhibits satisfactory chemical and
 CC physical stability. This sequence represents a glucagon-like peptide-1
 CC (GLP-1) relating to the novel crystals of the invention.
 XX
 SQ Sequence 31 AA;

AAO22093 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HVEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA SEQUENCE 1.0
 ID -ABB80094 standard; peptide; 37 AA.
 XX
 AC ABB80094;
 XX
 DT 02-OCT-2002 (first entry)
 DE Glucagon like peptide-1 (GLP-1) 1-37.
 XX
 KW Glucagon like peptide-1; GLP-1 (1-37); cardiant; antidiabetic;
 KW vasotropic; hibernating myocardium; congestive heart failure;
 KW ischaemic cardiomyopathy; diabetic cardiomyopathy.
 XX
 OS Mammalia.
 XX
 PN WO200234285-A2.
 XX
 PD 02-MAY-2002.
 XX
 PF 22-OCT-2001; 2001WO-US32559.
 XX
 PR 20-OCT-2000; 2000US-241834P.
 PR 23-OCT-2000; 2000US-242139P.
 PR 03-NOV-2000; 2000US-245234P.
 XX
 XX (COOL/) COOLIDGE T R.
 XX
 XX Ehlers M;
 XX
 DR WPI; 2002-426545/45.
 XX
 PT Treatment of hibernating myocardium involves administering GLP-1
 PT molecule
 XX
 PS Disclosure; Page 7; 25pp; English.
 XX
 CC The invention relates to the treatment of hibernating myocardium by

CC administering a GLP-1 (glucagon like peptide-1) molecule. GLP-1 activity
 CC may be described as, cardiant, antidiabetic and vasotropic. GLP-1 may be
 CC used for treating, hibernating myocardium, congestive heart failure,
 CC ischaemic cardiomyopathy and diabetic cardiomyopathy. GLP-1 reduces
 CC plasma or heart norepinephrine level in a patient. The current sequence
 CC represents glucagon like peptide-1 (GLP-1) 1-37.
 XX
 XX
 SQ Sequence 37 AA;

ABB80094 Length: 37 January 22, 2004 18:02 Type: P Check: 2897 ..

1 HDEFERHAEG TPTSDVSSYL EGQAKEFIA WLKVRG

!!AA_SEQUENCE 1.0

ID -ABB80096 standard; peptide; 31 AA.

XX AC ABB80096;

DT 02-OCT-2002 (first entry)

XX XX Glucagon like peptide-1 (GLP-1) 7-37.

DE Glucagon like peptide-1; GLP-1 (7-37); cardiant; antidiabetic;
 KW vasotropic; hibernating myocardium; congestive heart failure;
 KW ischaemic cardiomyopathy; diabetic cardiomyopathy.
 XX Mammalia.

XX PN WO200234285-A2.

XX PD 02-MAY-2002.

XX PF 22-OCT-2001; 2001WO-US32559.

XX PR 20-OCT-2000; 2000US-241834P.

XX PR 23-OCT-2000; 2000US-242139P.

XX PR 03-NOV-2000; 2000US-245234P.

XX PA (COOL/) COOLIDGE T R.

XX PI Ehlers M;

XX DR WPI; 2002-426545/45.

XX XX Treatment of hibernating myocardium involves administering GLP-1

PT molecule

XX PS Disclosure; Page 7; 25pp; English.

XX CC The invention relates to the treatment of hibernating myocardium by
 CC administering a GLP-1 (glucagon like peptide-1) molecule. GLP-1 activity
 CC may be described as, cardiant, antidiabetic and vasotropic. GLP-1 may be
 CC used for treating, hibernating myocardium, congestive heart failure,
 CC ischaemic cardiomyopathy and diabetic cardiomyopathy. GLP-1 reduces
 CC plasma or heart norepinephrine level in a patient. The current sequence
 CC represents glucagon like peptide-1 (GLP-1) 7-37, which is produced from
 CC the enzymatic processing of GLP-1 (1-37) (see ABB80094).

XX SQ Sequence 31 AA;

ABB80096 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA_SEQUENCE 1.0

ID -ABB80861 standard; peptide; 31 AA.

XX AC ABB80861;

DT 08-OCT-2002 (first entry)

XX DE Human glucagon-like peptide-1 (GLP-1) related peptide GLP-1 (7-37)OH.

XX

KW Glucagon-like peptide; GLP; GLP-1; antidiabetic; antinflammatory;
 KW cardiant; cerebroprotective; anorectic; human.

XX Homo sapiens.

XX PN WO200248192-A2.

XX PD 20-JUN-2002.

XX PF 30-NOV-2001; 2001WO-US43167.

XX PR 13-DEC-2000; 2000US-255251P.

XX PA (ELIL) LILLY & CO ELI.

XX PI Millican RLJ, Glaesner W, Dimarchi RD;

XX WPI; 2002-557607/59.

XX PT New amidated glucagon-like peptide useful for the treatment of e.g.
 PT diabetes

XX PS Disclosure; Page 4; 50pp; English.

XX CC The invention provides an amidated glucagon-like peptide (GLP-1) with the
 CC sequence as shown in ABB80860. The amidated GLP-1 peptide, crystals of
 CC the peptide, pharmaceutical compositions comprising the crystals or the
 CC peptide are all useful in the manufacture of a medicament for the
 CC treatment of diabetes, hyperglycemia, obesity, for the reduction of
 CC morbidity and mortality associated with myocardial infarction or stroke,
 CC for the attenuation of catabolic changes that occur after surgery, in a
 CC mammal (preferably human and animal). They are also useful for treatment
 CC of irritable bowel syndrome. The present sequence represents a naturally
 CC occurring human GLP-1 related peptide GLP-1(7-37)OH.

XX SQ Sequence 31 AA;

ABB80861 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!!AA_SEQUENCE 1.0

ID -ABB80862 standard; peptide; 31 AA.

XX AC ABB80862;

XX DT 08-OCT-2002 (first entry)

XX DE Glucagon-like peptide-1 (GLP-1) Val8-GLP-1(7-37)NH2.

XX KW Glucagon-like peptide; GLP; GLP-1; antidiabetic; antinflammatory;
 KW cardiant; cerebroprotective; anorectic.

XX XX Synthetic.

XX OS Homo sapiens.

XX XX Key Location/Qualifiers

FT Misc-difference 2 /label= ABV

FT FT /note= "Ala is substituted with Val"

FT Modified-site 31

FT FT /note= "C-terminal amide"

XX PN WO200248192-A2.

XX PD 20-JUN-2002.

XX PF 30-NOV-2001; 2001WO-US43167.

XX PR 13-DEC-2000; 2000US-255251P.

XX PA (ELIL) LILLY & CO ELI.

PI Millican RLJ, Glaesner W, Dimarchi RD;
 XX WPI; 2002-557607/59.
 XX New amidated glucagon-like peptide useful for the treatment of e.g.
 PT diabetes
 XX
 XX Disclosure; Page 4; 50pp; English.
 XX
 CC The invention provides an amidated glucagon-like peptide (GLP-1) with the
 CC sequence as shown in ABB80862. The amidated GLP-1 peptide, crystals of
 CC the peptide, pharmaceutical compositions comprising the crystals or the
 CC peptide are all useful in the manufacture of a medicament for the
 CC treatment of diabetes, hyperglycemia, obesity, for the reduction of
 CC morbidity and mortality associated with myocardial infarction or stroke,
 CC for the attenuation of catabolic changes that occur after surgery, in a
 CC mammal (preferably human and animal). They are also useful for treatment
 CC of irritable bowel syndrome. The present sequence represents an amidated
 CC GLP-1 peptide Val8-GLP(7-37)NH2.
 XX
 SQ Sequence 31 AA;
 ABB80862 Length: 31 January 22, 2004 18:02 Type: P Check: 7403
 1 HVEGTTSDV SSYLEGQAAK EPIAWLVKGR G
 11AA SEQUENCE 1.0
 ID AAU85972 standard; peptide; 31 AA.
 AC AAU85972;
 XX
 XX 21-MAY-2002 (first entry)
 XX
 DE Modified human glucagon-like peptide 1 (hGLP-1) residues 7-37.
 XX
 KW Increased biological potency; prolonged activity; increased half-life;
 KW glucose intolerance; insulin resistance; type II diabetes; bone disease;
 KW cancer; inflammatory disorder; obesity; developmental disorder;
 KW hyperproliferative skin disease; hormone-dependent disease; homeostasis;
 KW intestinal disease; interleukin-8 production; smooth muscle contraction;
 KW feeding; blood pressure; pancreatic secretion; mutant; mutein; human;
 KW glucagon-like peptide 1; hGLP-1.
 XX
 OS Homo sapiens.
 OS Synthetic.
 XX
 XX Key Location/Qualifiers
 FT Modified-site 31 /note= "Optionally modified by C-terminal amide"
 FT
 XX W0200210195-A2.
 XX
 XX 07-FEB-2002.
 XX
 XX 02-AUG-2001; 2001WO-CA01119.
 XX
 XX 02-AUG-2000; 2000US-222619P.
 XX
 XX (THER-) THERATECHNOLOGIES INC.
 XX
 XX Gravel D, Habi A, Abribat T;
 XX WPI; 2002-206179/26.
 XX
 XX Novel modified biological peptide with increased biological potency,
 PT prolonged activity, increased half-life, for treating glucose
 PT intolerance associated or not with insulin resistance pathologies, type
 PT II diabetes
 XX
 XX Claim 5; Page 53; 77pp; English.
 XX
 CC The present invention relates to modified biological peptides with
 CC increased biological potency, prolonged activity and/or increased

CC half-life. The peptides of the invention are useful in the treatment
 CC of glucose intolerance which may be associated with insulin resistance
 CC pathologies, and in the treatment of type II diabetes. They are also
 CC useful for treating bone diseases, cancer, diseases related to
 CC inflammatory responses, obesity, autism, pervasive developmental
 CC disorders, hyperproliferative skin diseases, hormone-dependent diseases,
 CC They can be used for regulating blood glucose, enhancing glucose
 CC regeneration in patients with intestinal diseases, inhibition of
 CC interleukin-8 production, stimulation of acid release, homeostasis,
 CC regulation of exocrine and endocrine secretions, smooth muscle
 CC contraction, feeding, blood pressure, body temperature and cell growth,
 CC regulation of food intake and energy balance, and stimulation of
 CC pancreatic secretion or cell growth. AAU85971-AAU86019 represent the
 CC modified biological peptides of the invention.
 XX
 SQ Sequence 31 AA;
 AAU85972 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
 1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
 11AA SEQUENCE 1.0
 ID AAU85972 standard; peptide; 31 AA.
 AC AAU85972;
 XX
 XX 01-MAY-2002 (first entry)
 XX
 DE Glucagon-like peptide-1 (GLP-1) peptide, GLP-1(7-37).
 XX
 KW Glucagon-like peptide-1; GLP-1; obesity; stroke; myocardial infarction;
 KW catabolic change; irritable bowel syndrome; therapy; diabetes; dyspepsia;
 KW impaired glucose tolerance; impaired fasting glucose; gastrointestinal;
 KW partial pancreatectomy; pancreatitis; anorectic; antidiabetic; cardiant;
 KW antiinflammatory; cerebroprotective.
 XX
 OS Unidentified.
 XX
 XX W0200198331-A2.
 XX
 XX 27-DEC-2001.
 XX
 XX 01-JUN-2001; 2001WO-US16474.
 XX
 XX 16-JUN-2000; 2000US-212171P.
 XX
 XX 13-OCT-2000; 2000US-240349P.
 XX
 XX (ELIL) LILLY & CO ELI.
 XX
 XX Glaesner W, Millican RL;
 XX WPI; 2002-075625/10.
 XX
 XX Modified glucagon-like peptide-1 compounds, useful for treating
 XX disorders associated with need for stimulation of glucagon-like
 XX peptide-1 receptor e.g. obesity, stroke or myocardial infarction -
 XX
 XX Example 4; Page 8; 69pp; English.
 XX
 XX The present invention relates to glucagon-like peptide-1 (GLP-1)
 XX compound and its analogues. The invention is used for stimulating the
 XX glucagon-like peptide-1 (GLP-1) receptor and for treatment or preparation
 XX of a medicament for treatment of disorders where stimulation of the GLP-1
 XX receptor is needed, such as obesity, stroke, myocardial infarction,
 XX catabolic changes after surgery or irritable bowel syndrome. GLP-1 is
 XX also used for preparation of a medicament for prophylactic treatment of
 XX non-insulin dependent diabetes and insulin dependent diabetes. Also for
 XX treating functional dyspepsia, impaired glucose tolerance, impaired
 XX fasting glucose, partial pancreatectomy, gestational diabetes and acute
 XX or chronic pancreatitis. The present sequence is GLP-1.
 XX
 SQ Sequence 31 AA;

AAE17659 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
1 HAEOTFTSDV SSYLEGOAAK EPIAWLVKGR G

11AA SEQUENCE 1.0
ID -AAE17694 standard; peptide; 31 AA.
AC AAE17694;
XX
DT 01-MAY-2002 (first entry)
XX
DE Glucagon-like peptide-1 (GLP-1) analogue, Val18-GLP-1(7-37).
XX
KW Glucagon-like peptide-1; GLP-1; obesity; stroke; myocardial infarction;
KW catabolic change; irritable bowel syndrome; therapy; diabetes; dyspepsia;
KW impaired glucose tolerance; impaired fasting glucose; gastrointestinal;
KW partial pancreatectomy; pancreatitis; anorectic; antidiabetic; cardiant;
KW antiinflammatory; cerebroprotective.
XX
OS Unidentified.
XX
FH Key Location/Qualifiers
FT Misc-difference 2 /note= "Wild type Ala substituted with Val"
FT
XX
PN W0200198331-A2.
XX
PD 27-DEC-2001.
XX
XX 01-JUN-2001; 2001WO-US16474.
XX
PR 16-JUN-2000; 2000US-212171P.
PR 13-OCT-2000; 2000US-240349P.
XX
XX (ELIL) LILLY & CO ELI.
XX
PI Glaesner W, Millican RL;
XX
DR WPI; 2002-075625/10.
XX
PT Modified glucagon-like peptide-1 compounds, useful for treating
PT disorders associated with need for stimulation of glucagon-like
PT peptide-1 receptor e.g. obesity, stroke or myocardial infarction -
XX
PS Example 4; Page -; 69pp; English.
XX
CC The present invention relates to glucagon-like peptide-1 (GLP-1)
CC compound and its analogues. The invention is used for stimulating the
CC glucagon-like peptide-1 (GLP-1) receptor and for treatment or preparation
CC of a medicament for treatment of disorders where stimulation of the GLP-1
CC receptor is needed, such as obesity, stroke, myocardial infarction,
CC catabolic changes after surgery or irritable bowel syndrome. GLP-1 is
CC also used for preparation of a medicament for prophylactic treatment of
CC non-insulin dependent diabetes and insulin dependent diabetes. Also for
CC treating functional dyspepsia, impaired glucose tolerance, impaired
CC fasting glucose, partial pancreatectomy, gestational diabetes and acute
CC or chronic pancreatitis. The present sequence is GLP-1 analogue.
CC Note: The present sequence is not shown in the specification, but is
CC derived from SEQ ID NO:19 (AAE17659) shown in page 8 of the
CC specification.
XX
SQ Sequence 31 AA;
AAE17694 Length: 31 January 22, 2004 18:02 Type: P Check: 7403
1 HVEOTFTSDV SSYLEGOAAK EPIAWLVKGR G

11AA SEQUENCE 1.0
ID -AAE14419 standard; peptide; 37 AA.
AC AAE14419;
XX
DT 26-MAR-2002 (first entry)

XX Mammalian glucagon-like peptide-1, GLP-1(1-37).
DE
XX
KW Acute coronary syndrome; ACS; Q-wave myocardial infarction; Q-wave MI;
KW angina; non-Q-wave cardiac necrosis; ischaemic heart disease;
KW congestive heart failure; heart murmur; troponin I; troponin T;
KW creatine kinase myocardial isoenzyme; CK-MB; ST-segment; chest pain;
KW nausea; palpitation; dizziness; angioplasty; pulmonary oedema;
KW peripheral oedema; extrasystole; arterial fibrillation; arrhythmia;
KW diabetes; hypertension; hypercholesterolaemia; hyperlipidaemia; obesity;
KW smoking; impaired glucose tolerance; blood glucose; thrombolytic therapy;
KW cardiac distress; glucagon-like peptide-1; GLP-1(1-37)
XX
OS Mammalia.
XX
FN W0200199554-A2.
XX
PD 29-NOV-2001.
XX
XX 18-MAY-2001; 2001WO-US15996.
XX
PR 19-MAY-2000; 2000US-205239P.
XX
PA (BION-) BIONEERASKA INC.
XX
PI Coolidge TR, Ehlers M;
XX
XX WPI, 2002-089892/12.
XX
DR New method of treating patients suffering from acute coronary syndrome,
PT but not suffering from Q-wave myocardial infarction involves the use of
PT glucagon-like peptide-1 derivatives -
XX
PS Disclosure; Page 10; 38pp; English.
XX
CC The invention relates to a novel method of treating patients suffering
CC from acute coronary syndrome (ACS) and not from Q-wave myocardial
CC infarction (Q-wave MI) that involves administering a glucagon-like
CC peptide-1 (GLP-1) molecule to the patients. The method is also useful for
CC treating patients suffering from stable/unstable angina, non-Q-wave
CC cardiac necrosis, ischaemic heart disease or at a risk of developing
CC ischaemic heart disease, cardiac abnormalities including congestive
CC heart failure, worsening heart murmur (due to mitral regurgitation and
CC cardiac conduction disturbances); for treating patients who have
CC a blood troponin I level of less than 0.4 ng/ml and blood troponin T
CC level of no more than 0.1 ng/ml; do not have elevated blood creatine
CC kinase myocardial enzyme and ST-segment elevation, do not exhibit a
CC pathological Q-wave, exhibit pain or symptoms such as chest pain greater
CC than 15 minutes in duration, chest pain at rest or chest pain following
CC nausea, shortness of breath, palpitation and dizziness (and have not
CC minimal exertion (that is poorly responsive to sublingual nitrates),
CC suffered from a Q-wave myocardial infarction prior to the onset of the
CC symptoms, and having normal ECG. The GLP-1 compound is further
CC useful in angioplasty, for treating patients showing
CC symptoms of pulmonary and peripheral oedema, atrial or ventricular
CC extrasystoles, arterial fibrillation and other arrhythmias; and those
CC suffering from diabetes, hypertension, hypercholesterolaemia,
CC hyperlipidaemia, obesity and smoking. The administration of GLP-1
CC following a Q-myocardial infarction (QMI) ameliorates the tissue damage
CC that results from the QMI and subsequent reperfusion-induced injury. An
CC advantage of using GLP-1 molecules is that high doses can be used without
CC consequent hypoglycaemia and hyperglycaemia. Thus doses up to 10 nmol/kg
CC can be used without adverse effects, as the action of the molecules are
CC ideal for optimising glucose metabolism in individuals including those
CC with impaired glucose tolerance and elevated or aberrant blood glucose
CC levels. The molecule increases the time during which thrombolytic
CC therapy becomes effective following the first symptom of cardiac
CC distress. The present sequence is mammalian GLP-1(1-37) peptide
XX
XX used in the invention.
SQ Sequence 37 AA;
AAE14419 Length: 37 January 22, 2004 18:02 Type: P Check: 2897

1 HDEFERHAEG TFTSDVSSYL EQAAKEPIA WLKVRG

!!AA SEQUENCE 1.0

ID -AAE14421 standard; peptide; 31 AA.

AC AAE14421;

DT 26-MAR-2002 (first entry)

DE Mammalian glucagon-like peptide-1, GLP-1(7-37).

XX Acute coronary syndrome; ACS; Q-wave myocardial infarction; Q-wave MI; angina; non-Q-wave cardiac necrosis; ischaemic heart disease; congestive heart failure; heart murmur; troponin I; troponin T; creatine kinase myocardial isoenzyme; CK-MB; ST-segment; chest pain; nausea; palpitation; dizziness; angiotensin; pulmonary oedema; peripheral oedema; extrasystole; arterial fibrillation; arrhythmia; diabetes; hypertension; hypercholesterolaemia; hyperlipidaemia; obesity; smoking; impaired glucose tolerance; blood glucose; thrombolytic therapy; cardiac distress; glucagon-like peptide-1; GLP-1(7-37).

XX Mammalia.

OS W0200189554-A2.

PN 29-NOV-2001.

XX 18-MAY-2001; 2001WO-US15996.

XX 19-MAY-2000; 2000US-205239P.

XX (BION-) BIONEERASKA INC.

XX Coolidge TR, Ehlers M;

XX WPI; 2002-089892/12.

XX New method of treating patients suffering from acute coronary syndrome, but not suffering from Q-wave myocardial infarction involves the use of glucagon-like peptide-1 derivatives.

XX Disclosure; Page 10; 38pp; English.

XX The invention relates to a novel method of treating patients suffering from acute coronary syndrome (ACS) and not from Q-wave myocardial infarction (Q-wave MI) that involves administering a glucagon-like peptide-1 (GLP-1) molecule to the patients. The method is also useful for treating patients suffering from stable/unstable angina, non-Q-wave cardiac necrosis, ischaemic heart disease or at a risk of developing ischaemic heart disease, cardiac abnormalities including congestive heart failure, worsening heart murmur (due to mitral regurgitation and cardiac conduction disturbances); for treating patients who have a blood troponin I level of less than 0.4 ng/ml and blood troponin T level of no more than 0.1 ng/ml; do not have elevated blood creatine kinase myocardial enzyme and ST-segment elevation, do not exhibit a pathological Q-wave, exhibit pain or symptoms such as chest pain greater than 15 minutes in duration, chest pain at rest or chest pain following minimal exertion (that is poorly responsive to sublingual nitrates), nausea, shortness of breath, palpitation and dizziness and have not suffered from a Q-wave myocardial infarction prior to the onset of the symptoms, and having normal ECG. The GLP-1 compound is further useful in angioplasty, for treating patients showing symptoms of pulmonary and peripheral oedema, atrial or ventricular extrasystoles, arterial fibrillation and other arrhythmias; and those suffering from diabetes, hypertension, hypercholesterolaemia, hyperlipidaemia, obesity and smoking. The administration of GLP-1 following a Q-mycardial infarction (QMI) ameliorates the tissue damage that results from the QMI and subsequent reperfusion-induced injury. An advantage of using GLP-1 molecules is that high doses can be used without consequent hypoglycaemia and hyperglycaemia. Thus doses up to 10 nmol/kg can be used without adverse effects, as the action of the molecules are ideal for optimising glucose metabolism in individuals including those

CC with impaired glucose tolerance and elevated or aberrant blood glucose levels. The molecule increases the time during which the thrombolytic therapy becomes effective following the first symptom of cardiac distress. The present sequence is mammalian GLP-1(7-37) peptide used in the invention. The present peptide is produced by enzymatic processing of GLP-1(1-37).

XX Sequence 31 AA;

AAE14421 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGTFTSDV SSYLEGQAAK EFIAWLKGR G

!!AA SEQUENCE 1.0

ID -ABB07146 standard; peptide; 31 AA.

AC ABB07146;

XX 13-MAR-2002 (first entry)

DE Glucagon-like peptide-1 (GLP-1) fragment (residues 7-37).

XX GLP-1; glucagon-like-peptide-1; growth-hormone releasing factor; GRF; parathyroid hormone; PTH; antidiabetic; anorectic; gastroprotective; vasotropic; anti-inflammatory; antiarteriosclerotic; hepatotropic; tranquilizer; vulnery; osteopathic; pharmaceutical.

OS Homo sapiens.

XX W0200187322-A2.

XX 22-NOV-2001.

XX 17-MAY-2001; 2001WO-US15972.

XX 17-MAY-2000; 2000US-205377P.

XX 19-MAY-2000; 2000US-205262P.

XX (BION-) BIONEERASKA INC.

XX Holmquist B, Dormady DC;

XX WPI; 2002-082941/11.

XX New peptide formulation for treating disease e.g. diabetes, obesity, ischemia comprises peptides, an acid having a specified association constant and an excipient.

XX Disclosure; Page 10; 34pp; English.

XX The invention provides a pharmaceutical composition that comprises a molecule selected from a glucagon-like-peptide-1 (GLP-1) molecule, growth hormone releasing factor (GRF) molecule or a parathyroid hormone (PTH) molecule. The composition further includes a weak acid such as acetic acid. The pH of the composition is 3 - 5. The composition can be used for the treatment of a disease or condition selected from diabetes, excess appetite, obesity, stroke, ischemia, reperfusion injury, disturbed glucose metabolism, surgery, coma, shock, gastrointestinal disease, digestive hormone disease, atherosclerosis, vascular disease, gestational diabetes, liver disease and cirrhosis, glucocorticoid excess, Cushing's disease, the presence of activated counter regulatory hormones that occur after trauma or a disease, hypertriglyceridemia, chronic pancreatitis, the need for parenteral feeding, and a catabolic state following surgery or injury. The present sequence represents a GLP-1 peptide fragment.

XX Sequence 31 AA;

ABB07146 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGTFTSDV SSYLEGQAAK EFIAWLKGR G

!!AA SEQUENCE 1.0

ID -AAM50391 standard; Peptide; 37 AA.

XX
AC AAM50391;
XX
DT 18-FEB-2002 (first entry)
XX
DE Glucagon-like peptide 1.
XX
DE Glucagon-like peptide 1; GLP-1; human; glycaemia; antidiabetic;
KW insulinotropic; non-insulin dependent diabetes mellitus; NIDDM;
KW therapy.
XX
OS Homo sapiens.
XX
EN US6284727-B1.
XX
PD 04-SEP-2001.
XX
PF 07-JUN-1995; 95US-0472349.
XX
PR 25-JAN-1994; 94US-0181655.
PR 07-APR-1993; 93US-0044133.
XX
PA (SCIO-) SCIOS INC.
XX
PI Kim Y, Lambert WJ, Qi H, Gelfand RA, Geoghegan KF, Danley DE;
XX WPI; 2002-033119/04.
XX
PT Compositions useful in treatment of non-insulin dependent diabetes
PT mellitus comprises peptides and polymer e.g. polysaccharide or
PT vegetable oil.
XX
PS Claim 1(i) (b); Column 47; 42pp; English.
XX
CC The present sequence is that of glucagon-like peptide 1 (GLP-1).
CC During processing in the pancreas and intestine, GLP-1 is converted
CC to a 31-amino acid peptide comprising amino acids 7-37 of GLP-1,
CC designated GLP-1 (7-37) (see AAM50392). This peptide has
CC insulinotropic activity, i.e. it is able to stimulate, or cause to
CC be stimulated, the synthesis or expression of insulin. GLP-1
CC (7-37) is alternatively known as insulinotropin. GLP-1 and its
CC derivatives (see AAM50392-97) are used in claimed compositions
CC for prolonged administration in the treatment of non-insulin
CC dependent diabetes mellitus. The compositions, which also include
CC a polymer such as a polysaccharide or vegetable oil, enhance
CC insulin action to achieve sustained glycaemic control.
XX
SQ Sequence 37 AA;
XX
AAM50391 Length: 37 January 22, 2004 18:02 Type: P Check: 2897 ..
XX
1 HDEFERHAE TPTSDVSSYL EGQAKEFIA WLVKGRG
XX
!!AA SEQUENCE 1.0
ID AAM50392 standard; Peptide; 31 AA.
XX
AC AAM50392;
XX
DT 18-FEB-2002 (first entry)
XX
DE Glucagon-like peptide 1 (7-37).
XX
KW Glucagon-like peptide 1 (7-37); GLP-1 (7-37); insulinotropin;
KW human; glycaemia; antidiabetic; insulinotropic; NIDDM;
KW non-insulin dependent diabetes mellitus; therapy.
XX
OS Homo sapiens.
XX
EN US6284727-B1.
XX
PD 04-SEP-2001.
XX
PF 07-JUN-1995; 95US-0472349.

XX
PR 25-JAN-1994; 94US-0181655.
PR 07-APR-1993; 93US-0044133.
XX
PA (SCIO-) SCIOS INC.
XX
PI Kim Y, Lambert WJ, Qi H, Gelfand RA, Geoghegan KF, Danley DE;
XX WPI; 2002-033119/04.
XX
PT Compositions useful in treatment of non-insulin dependent diabetes
PT mellitus comprises peptides and polymer e.g. polysaccharide or
PT vegetable oil.
XX
PS Claim 1(i) (a); Column 47; 42pp; English.
XX
CC The present sequence is that of amino acids 7-37 of glucagon-like
CC peptide 1 (GLP-1). During processing in the pancreas and
CC intestine, 37-amino acid GLP-1 is converted to 31-amino acid
CC GLP-1 (7-37). This peptide has insulinotropic activity, i.e. it is
CC able to stimulate, or cause to be stimulated, the synthesis or
CC expression of insulin. GLP-1 (7-37) is alternatively known as
CC insulinotropin. GLP-1 (7-37) and its derivatives (see AAM50393-97)
CC are used in claimed compositions for prolonged administration in
CC the treatment of non-insulin dependent diabetes mellitus. The
CC compositions, which also include a polymer such as a polysaccharide
CC or vegetable oil, enhance insulin action to achieve sustained
CC glycaemic control.
XX
SQ Sequence 31 AA;
XX
AAM50392 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
XX
1 HAEGFTSDV SSYLEGQAQK EPIANLVKGR G
XX
!!AA SEQUENCE 1.0
ID AAM50392 standard; peptide; 37 AA.
XX
AC AAM50392;
XX
DT 18-DEC-2001 (first entry)
XX
DE Mammalian glucagon-like peptide-1, GLP-1(1-37).
XX
KW Antidiarrhoeic; antiinflammatory; antidiabetic; premedication;
KW antro-duodenal motility; glucagon-like peptide-1; GLP-1; endoscopy;
KW diarrhoea; post-operative dumping syndrome; irritable bowel syndrome;
KW narcotics withdrawal.
XX
OS Homo sapiens.
XX
EN WO200168112-A2.
XX
PD 20-SEP-2001.
XX
PF 14-MAR-2001; 2001WO-EP02882.
XX
PR 14-MAR-2000; 2000US-189091P.
XX
PA (GOEK/) GOEKE B.
PA (SCHI/) SCHIRRA J.
XX
PI Goeke B, Schirra J;
XX WPI; 2001-596887/67.
XX
PT Inhibiting antro-duodenal motility, useful to prevent or treat
PT gastrointestinal disorders such as irritable bowel syndrome and
PT non-infectious diarrhoea, comprises administering glucagon-like peptide
PT .
XX
PS Disclosure; Page 7; 43pp; English.
XX

CC The invention relates to a method of inhibiting antro-duodenal motility
CC in a patient, comprising administering a glucagon-like peptide (GLP-1)
CC molecule. The method is used to premedicate or in endoscopic
CC procedures or to treat or prevent non-infectious acute and chronic
CC diarrhoea, post-operative dumping syndrome, irritable bowel syndrome or
CC symptoms associated with narcotics withdrawal. Unlike prior art treatment
CC with glucagon, the invention is not contraindicated in persons with
CC diabetes, does not incur the risks of side effects such as nausea, and is
CC not expensive. The present sequence represents mammalian glucagon-like
CC peptide-1, GLP-1 (1-37), as described in the method of the invention.
XX
SQ Sequence 37 AA;

AAU07372 Length: 37 January 22, 2004 18:02 Type: P Check: 2897

1 HDEFERHAEG TTTSDVSSYL EQAAKEFIA WLKVRG

!IAA_SEQUENCE 1.0

ID -AAU07374 standard; peptide; 31 AA.

AC AAU07374;

XX 19-DEC-2001 (first entry)

XX Mammalian glucagon-like peptide-1, GLP-1(7-37).

XX Antidiarrhoeic; antiinflammatory; antiaddictive; premedication;
KW antro-duodenal motility; glucagon-like peptide-1; GLP-1; endoscopy;
KW diarrhoea; post-operative dumping syndrome; irritable bowel syndrome;
KW narcotics withdrawal.
XX Homo sapiens.

OS WO200168112-A2.

XX 20-SEP-2001.

XX 14-MAR-2001; 2001WO-EP02882.

XX 14-MAR-2000; 2000US-189091P.

XX (GOEK/) GOEKE B.

XX (SCHI/) SCHIRRA J.

XX Goeke B, Schirra J;

XX WPI; 2001-596887/67.

XX Inhibiting antro-duodenal motility, useful to prevent or treat
PT gastrointestinal disorders such as irritable bowel syndrome and
PT non-infectious diarrhoea, comprises administering glucagon-like peptide
PT

XX Disclosure; Page 8; 43pp; English.

XX The invention relates to a method of inhibiting antro-duodenal motility
CC in a patient, comprising administering a glucagon-like peptide (GLP-1)
CC molecule. The method is used to premedicate or in endoscopic
CC procedures or to treat or prevent non-infectious acute and chronic
CC diarrhoea, post-operative dumping syndrome, irritable bowel syndrome or
CC symptoms associated with narcotics withdrawal. Unlike prior art treatment
CC with glucagon, the invention is not contraindicated in persons with
CC diabetes, does not incur the risks of side effects such as nausea, and is
CC not expensive. The present sequence represents mammalian glucagon-like
CC peptide-1, GLP-1 (7-37), as described in the method of the invention.
XX
SQ Sequence 31 AA;

AAU07374 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!IAA_SEQUENCE 1.0

AAE09251 standard; peptide; 31 AA.

XX AAE09251;

XX 15-NOV-2001 (first entry)

XX Human glucagon-like peptide-1 related molecule (GLP)-1(7-37)OH.

XX Human; glucagon-like peptide-1 related molecule; GLP; GLP-1(7-37)OH;
KW GLP crystal; manufacturing process; pharmaceutical formulation; therapy;
KW diabetes; obesity.

XX Homo sapiens.

XX US2001014666-A1.

XX 16-AUG-2001.

XX 11-DEC-1998; 98US-0209799.

XX 11-DEC-1998; 98US-0209799.

XX (HERM/) HERMELING R N.

XX (HOFF/) HOFFMANN J A.

XX (NARA/) NARASIMHAN C.

XX Hermeling RN, Hoffmann JA, Narasimhan C;

XX WPI; 2001-529113/58.

XX Glucagon-like peptide-1 crystals for treating diabetes are prepared
PT from mother liquor containing glucagon-like-peptide-1 related molecules
PT dissolved in buffered solution and alcohol

XX Example 1; Page 2; 17pp; English.

XX The present sequence is a human glucagon-like peptide-1 related molecule
CC (GLP)-1(7-37)OH. The single tetragonal flat rod-shaped or plate-like
CC crystals of a GLP are prepared from a crystallisation solution containing
CC a GLP, a buffering agent, an alcohol or a mono or disaccharide and
CC optionally ammonium sulphate or zinc. The GLP crystals are used in
CC manufacturing process, in pharmaceutical formulations for treating
CC diabetes, obesity or related conditions in mammals.

XX Sequence 31 AA;

AAE09251 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G

!IAA_SEQUENCE 1.0

ID -AAE09266 standard; peptide; 31 AA.

XX AAE09266;

XX 15-NOV-2001 (first entry)

XX Human DPP-IV protected glucagon-like peptide-1 related molecule #2.

XX Human; glucagon-like peptide-1 related molecule; GLP; GLP crystal;
KW manufacturing process; pharmaceutical formulation; therapy; diabetes;
KW obesity; dipeptidyl-peptidase-IV; DPP-IV.

XX Homo sapiens.

XX Synthetic.

XX US2001014666-A1.

XX 16-AUG-2001.

XX 11-DEC-1998; 98US-0209799.

XX 11-DEC-1998; 98US-0209799.

XX (HERM/) HERMELING R N.
PA (HOFF/) HOFFMANN J A.
PA (NARA/) NARASIMHAN C.
XX Hermeling RN, Hoffmann JA, Narasimhan C;
XX WPI; 2001-529113/58.
XX
XX Glucagon-like peptide-1 crystals for treating diabetes are prepared
PT from mother liquor containing glucagon-like-peptide-1 related molecules
PT dissolved in buffered solution and alcohol.
XX
XX Claim 5; Page 13; 17pp; English.
XX
XX The present sequence is a human dipeptidyl-peptidase-IV (DPP-IV)
CC protected glucagon-like peptide-1 related molecule (GLP). The single
CC tetragonal flat rod-shaped or plate-like crystals of a GLP are prepared
CC from a crystallisation solution containing a GLP, a buffering agent, an
CC alcohol or a mono or disaccharide and optionally ammonium sulphate or
CC zinc. The GLP crystals are used in manufacturing process, in
CC pharmaceutical formulations for treating diabetes, obesity or related
CC conditions in mammals.
XX
XX Sequence 31 AA;
SQ
AAE09266 Length: 31 January 22, 2004 18:02 Type: P Check: 7373 ..
1 HGEFTSDV SSYLEGQAAK EPIAWLVKGR G
IIAA_SEQUENCE 1.0
ID AAE09267 standard; peptide; 31 AA.
XX
AC AAE09267;
XX
DT 15-NOV-2001 (first entry)
XX
DE Human glucagon-like peptide-1 related molecule (GLP)-1 derivative #13.
XX
XX Human; glucagon-like peptide-1 related molecule; GLP; GLP crystal;
KW manufacturing process; pharmaceutical formulation; therapy; diabetes;
KW obesity.
XX
XX Homo sapiens.
OS Synthetic.
XX
XX US2001014666-A1.
XX
PD 16-AUG-2001.
XX
XX 11-DEC-1998; 98US-0209799.
XX
XX 11-DEC-1998; 98US-0209799.
XX
XX (HERM/) HERMELING R N.
PA (HOFF/) HOFFMANN J A.
PA (NARA/) NARASIMHAN C.
XX
XX Hermeling RN, Hoffmann JA, Narasimhan C;
XX WPI; 2001-529113/58.
XX
XX Glucagon-like peptide-1 crystals for treating diabetes are prepared
PT from mother liquor containing glucagon-like-peptide-1 related molecules
PT dissolved in buffered solution and alcohol
XX
XX Disclosure; Page 13; 17pp; English.
XX
XX The present sequence is a human glucagon-like peptide-1 related molecule
CC (GLP)-1 derivative. The single tetragonal flat rod-shaped or plate-like
CC crystals of a GLP are prepared from a crystallisation solution containing
CC a GLP, a buffering agent, an alcohol or a mono or disaccharide and
CC optionally ammonium sulphate or zinc. The GLP crystals are used in
CC manufacturing process, in pharmaceutical formulations for treating
CC diabetes, obesity or related conditions in mammals.
XX
XX Sequence 31 AA;
SQ
AAE09278 Length: 31 January 22, 2004 18:02 Type: P Check: 7553 ..
1 HGEFTSDV SSYLEGQAAK EPIAWLVKGR G
IIAA_SEQUENCE 1.0
ID AAG63268 standard; protein; 31 AA.
XX
AC AAG63268;
XX
DT 01-OCT-2001 (first entry)
XX
XX Amino acid sequence of an insoluble glucagon-like peptide 1 (GLP-1).
DE Glucagon-like peptide 1; GLP-1; soluble GLP-1.
XX
XX Homo sapiens.
OS

CC manufacturing process, in pharmaceutical formulations for treating
CC diabetes, obesity or related conditions in mammals.
XX
XX Sequence 31 AA;
SQ
AAE09267 Length: 31 January 22, 2004 18:02 Type: P Check: 7403 ..
1 HVEGFTSDV SSYLEGQAAK EPIAWLVKGR G
IIAA_SEQUENCE 1.0
ID AAE09278 standard; peptide; 31 AA.
XX
AC AAE09278;
XX
DT 15-NOV-2001 (first entry)
XX
XX Human glucagon-like peptide-1 related molecule (GLP)-1 derivative #23.
DE
XX
XX Human; glucagon-like peptide-1 related molecule; GLP; GLP crystal;
KW manufacturing process; pharmaceutical formulation; therapy; diabetes;
KW obesity.
XX
XX Homo sapiens.
OS Synthetic.
XX
XX US2001014666-A1.
XX
PD 16-AUG-2001.
XX
XX 11-DEC-1998; 98US-0209799.
XX
XX 11-DEC-1998; 98US-0209799.
XX
XX (HERM/) HERMELING R N.
PA (HOFF/) HOFFMANN J A.
PA (NARA/) NARASIMHAN C.
XX
XX Hermeling RN, Hoffmann JA, Narasimhan C;
XX WPI; 2001-529113/58.
XX
XX Glucagon-like peptide-1 crystals for treating diabetes are prepared
PT from mother liquor containing glucagon-like-peptide-1 related molecules
PT dissolved in buffered solution and alcohol
XX
XX Disclosure; Page 15; 17pp; English.
XX
XX The present sequence is a human glucagon-like peptide-1 related molecule
CC (GLP)-1 derivative. The single tetragonal flat rod-shaped or plate-like
CC crystals of a GLP are prepared from a crystallisation solution containing
CC a GLP, a buffering agent, an alcohol or a mono or disaccharide and
CC optionally ammonium sulphate or zinc. The GLP crystals are used in
CC manufacturing process, in pharmaceutical formulations for treating
CC diabetes, obesity or related conditions in mammals.
XX
XX Sequence 31 AA;
SQ
AAE09278 Length: 31 January 22, 2004 18:02 Type: P Check: 7553 ..
1 HGEFTSDV SSYLEGQAAK EPIAWLVKGR G
IIAA_SEQUENCE 1.0
ID AAG63268 standard; protein; 31 AA.
XX
AC AAG63268;
XX
DT 01-OCT-2001 (first entry)
XX
XX Amino acid sequence of an insoluble glucagon-like peptide 1 (GLP-1).
DE Glucagon-like peptide 1; GLP-1; soluble GLP-1.
XX
XX Homo sapiens.
OS

XX WO200155213-A2.
 XX
 XX
 PD 02-AUG-2001.
 XX
 XX 16-JAN-2001; 2001WO-US00010.
 XX
 XX 27-JAN-2000; 2000US-0178438.
 PR 09-AUG-2000; 2000US-0224058.
 XX
 XX (ELIL) LILLY & CO ELI.
 PA
 XX Prouty WFJ, Rinella JVJ;
 PI WPI; 2001-476192/51.
 DR
 XX Preparing a Glucagon-like peptide 1 compound soluble in aqueous
 PT solution at pH 7.4, comprises dissolving the insoluble form in aqueous
 PT base or acid and neutralizing the solution .
 XX
 PS Claim 4; Page 36; 49pp; English.
 XX
 CC The present sequence represents an insoluble glucagon-like peptide 1
 CC (GLP-1). The specification describes a method for preparing a GLP-1
 CC compound that is soluble in aqueous form at pH 7.4 from a GLP-1
 CC compound that is insoluble in aqueous form at pH 7.4. The method
 CC comprises dissolving the insoluble compound in aqueous base or acid;
 CC neutralizing the GLP-1 solution to a pH at which no amino acid
 CC racemisation of the GLP-1 compound occurs; and isolating GLP-1 from
 CC the neutralized solution. The method is used to prepare a soluble form
 CC of a GLP-1 compound. The soluble form of GLP-1 is physiologically active.
 XX
 XX Sequence 31 AA;
 SQ
 AAG63268 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
 1 HAEGETFTSDV SSYLEGQAAK EPIAWLVKGR G
 IIAA SEQUENCE 1.0
 ID AAG63272 standard; protein; 31 AA.
 AC AAG63272;
 XX
 XX 01-OCT-2001 (first entry)
 DT
 XX Glucagon-like peptide 1 (GLP-1) analogue Val8-GLP-1(7-37).
 DE
 XX Glucagon-like peptide 1; GLP-1; soluble GLP-1.
 KW
 XX Synthetic.
 OS
 XX WO200155213-A2.
 PN
 XX 02-AUG-2001.
 PD
 XX 16-JAN-2001; 2001WO-US00010.
 PF
 XX 27-JAN-2000; 2000US-0178438.
 PR 09-AUG-2000; 2000US-0224058.
 XX
 XX (ELIL) LILLY & CO ELI.
 PA
 XX Prouty WFJ, Rinella JVJ;
 PI WPI; 2001-476192/51.
 DR
 XX Preparing a Glucagon-like peptide 1 compound soluble in aqueous
 PT solution at pH 7.4, comprises dissolving the insoluble form in aqueous
 PT base or acid and neutralizing the solution .
 XX
 PS Example 1; Page 18; 49pp; English.
 XX
 CC The present sequence represents a glucagon-like peptide 1 (GLP-1)
 CC

CC analogue. The specification describes a method for preparing a GLP-1
 CC compound that is soluble in aqueous form at pH 7.4 from a GLP-1
 CC compound that is insoluble in aqueous form at pH 7.4. The method
 CC comprises dissolving the insoluble compound in aqueous base or acid;
 CC neutralizing the GLP-1 solution to a pH at which no amino acid
 CC racemisation of the GLP-1 compound occurs; and isolating GLP-1 from
 CC the neutralized solution. The method is used to prepare a soluble form
 CC of a GLP-1 compound. The soluble form of GLP-1 is physiologically active.
 XX
 XX Sequence 31 AA;
 SQ
 AAG63272 Length: 31 January 22, 2004 18:02 Type: P Check: 7403 ..
 1 HVEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
 IIAA SEQUENCE 1.0
 ID AAG63280 standard; protein; 31 AA.
 AC AAG63280;
 XX
 XX 01-OCT-2001 (first entry)
 DT
 XX An insoluble glucagon-like peptide 1 (GLP-1) compound.
 DE
 XX Glucagon-like peptide 1; GLP-1; soluble GLP-1.
 KW
 XX Synthetic.
 OS
 XX WO200155213-A2.
 PN
 XX 02-AUG-2001.
 PD
 XX 16-JAN-2001; 2001WO-US00010.
 PF
 XX 27-JAN-2000; 2000US-0178438.
 PR 09-AUG-2000; 2000US-0224058.
 XX
 XX (ELIL) LILLY & CO ELI.
 PA
 XX Prouty WFJ, Rinella JVJ;
 PI WPI; 2001-476192/51.
 DR
 XX Preparing a Glucagon-like peptide 1 compound soluble in aqueous
 PT solution at pH 7.4, comprises dissolving the insoluble form in aqueous
 PT base or acid and neutralizing the solution .
 XX
 PS Claim 4; Page 41; 49pp; English.
 XX
 CC The present sequence represents an insoluble glucagon-like peptide 1
 CC (GLP-1). The specification describes a method for preparing a GLP-1
 CC compound that is soluble in aqueous form at pH 7.4 from a GLP-1
 CC compound that is insoluble in aqueous form at pH 7.4. The method
 CC comprises dissolving the insoluble compound in aqueous base or acid;
 CC neutralizing the GLP-1 solution to a pH at which no amino acid
 CC racemisation of the GLP-1 compound occurs; and isolating GLP-1 from
 CC the neutralized solution. The method is used to prepare a soluble form
 CC of a GLP-1 compound. The soluble form of GLP-1 is physiologically active.
 XX
 XX Sequence 31 AA;
 SQ
 AAG63280 Length: 31 January 22, 2004 18:02 Type: P Check: 7373 ..
 1 HGEFTFTSDV SSYLEGQAAK EPIAWLVKGR G
 IIAA SEQUENCE 1.0
 ID AAG63282 standard; protein; 31 AA.
 AC AAG63282;
 XX
 XX 01-OCT-2001 (first entry)
 DT
 XX An insoluble glucagon-like peptide 1 (GLP-1) compound.
 DE

XX Glucagon-like peptide 1; GLP-1; soluble GLP-1.

XX Synthetic.

XX WO200155213-A2.

XX 02-AUG-2001.

XX 16-JAN-2001; 2001WO-US00010.

XX 27-JAN-2000; 2000US-0178438.

XX 09-AUG-2000; 2000US-0224058.

XX (ELIL) LILLY & CO ELI.

XX Prouty WFJ, Rinella JVJ;

XX WPI; 2001-476192/51.

XX Preparing a Glucagon-like peptide 1 compound soluble in aqueous solution at pH 7.4, comprises dissolving the insoluble form in aqueous base or acid and neutralizing the solution -

XX Claim 4; Page 42; 49pp; English.

XX The present sequence represents an insoluble glucagon-like peptide 1 (GLP-1). The specification describes a method for preparing a GLP-1 compound that is soluble in aqueous form at pH 7.4 from a GLP-1 compound that is insoluble in aqueous form at pH 7.4. The method comprises dissolving the insoluble compound in aqueous base or acid; neutralizing the GLP-1 solution to a pH at which no amino acid racemisation of the GLP-1 compound occurs; and isolating GLP-1 from the neutralized solution. The method is used to prepare a soluble form of a GLP-1 compound. The soluble form of GLP-1 is physiologically active.

XX Sequence 31 AA;

AAG63282 Length: 31 January 22, 2004 18:02 Type: P Check: 7403

1 HVEGTFSDV SSYLEGQAAK EPIAWLVKGR G

IIAA SEQUENCE 1.0

ID AAG63302 standard; protein; 31 AA.

AC AAG63302;

DT 01-OCT-2001 (first entry)

XX An insoluble glucagon-like peptide 1 (GLP-1) compound.

XX Glucagon-like peptide 1; GLP-1; soluble GLP-1.

XX Synthetic.

XX WO200155213-A2.

XX 02-AUG-2001.

XX 16-JAN-2001; 2001WO-US00010.

XX 27-JAN-2000; 2000US-0178438.

XX 09-AUG-2000; 2000US-0224058.

XX (ELIL) LILLY & CO ELI.

XX Prouty WFJ, Rinella JVJ;

XX WPI; 2001-476192/51.

XX Preparing a Glucagon-like peptide 1 compound soluble in aqueous solution at pH 7.4, comprises dissolving the insoluble form in aqueous base or acid and neutralizing the solution -

XX Claim 4; Page 49; 49pp; English.

XX The present sequence represents an insoluble glucagon-like peptide 1 (GLP-1). The specification describes a method for preparing a GLP-1 compound that is soluble in aqueous form at pH 7.4 from a GLP-1 compound that is insoluble in aqueous form at pH 7.4. The method comprises dissolving the insoluble compound in aqueous base or acid; neutralizing the GLP-1 solution to a pH at which no amino acid racemisation of the GLP-1 compound occurs; and isolating GLP-1 from the neutralized solution. The method is used to prepare a soluble form of a GLP-1 compound. The soluble form of GLP-1 is physiologically active.

XX Sequence 31 AA;

AAG63302 Length: 31 January 22, 2004 18:02 Type: P Check: 7553

1 HGEFTFTSDV SSYLQQAQAK EPIAWLVKGR G

IIAA SEQUENCE 1.0

ID AAB82335 standard; Peptide; 31 AA.

AC AAB82335;

DT 23-JUL-2001 (first entry)

XX Glucagon-like peptide 1 (7-37).

XX Somatostatin; glucagon-like peptide 1; GLP-1; antidiabetic; drug delivery; diabetes; gene therapy.

XX Homo sapiens.

XX WO200136643-A1.

XX 25-MAY-2001.

XX 17-NOV-2000; 2000WO-US31634.

XX 19-NOV-1999; 99US-0166508.

XX (TRAN-) TRANSKARYOTIC THERAPIES INC.

XX Treco DA, Concino MF, Duguay SJ;

XX WPI; 2001-355636/37.

XX New nucleic acid constructs useful for transforming cells useful as a drug delivery vehicle -

XX Example 3; Fig 4; 89pp; English.

XX The present sequence is that of amino acid residues 7-37 of human glucagon-like peptide 1 (GLP-1). The peptide is secreted by human fibroblasts transfected with pXIT-39 (see AAF30989). pXIT-39 is an example of novel nucleic acid constructs of the invention, that have been designed for the expression of small peptides, especially an antidiabetic peptide such as GLP-1(7-37) and signal peptide; a nucleic acid sequence encoding the pro-region of somatostatin, its functional fragment or analogue; and a nucleic acid encoding the small peptide. The construct may also comprise a cleavage site between the pro-region and the sequence encoding the small peptide. Claimed methods of treating a subject having diabetes involve administering the nucleic acid construct or a cell capable of expressing the small peptide. Transfected primary or secondary cells or cell strains have wide applicability as vehicles or delivery systems for therapeutic proteins such as GLP-1. By controlling the number of cells introduced into an individual, one can control the amount of the protein delivered to the body. In some cases, it is possible to remove the transfected cells if there is no longer a need for the product.

SQ Sequence 31 AA;
AAB82335 Length: 31 January 22, 2004 18:02 Type: P Check: 7361
1 HAEGTFTSDV SYLEGQAQK EPIAMLVKGR G
11AA SEQUENCE 1.0
ID AAB91169 standard; Peptide; 37 AA.
AC AAB91169;
DT 22-JUN-2001 (first entry)
DE Pancreatic hormone glucagon peptide SEQ ID NO:343.
KW Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW blood component; modification; succinimide; maleimido group; amino;
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX Homo sapiens.
OS Synthetic.
XX WO2000069900-A2.
XX 23-NOV-2000.
XX 17-MAY-2000; 2000WO-US13576.
XX 17-MAY-1999; 99US-0134406.
XX 10-SEP-1999; 99US-0153406.
XX 15-OCT-1999; 99US-0159783.
XX (CONJ-) CONJUCHEM INC.
XX Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;
XX WPI; 2001-112059/12.
XX Modifying and attaching therapeutic peptides to albumin prevents
XX peptidase degradation, useful for increasing length of in vivo activity
XX
XX Disclosure; Page 307; 733pp; English.
XX The present invention describes a modified therapeutic peptide (I)
XX comprising a therapeutically active amino acid region (III) and a
XX reactive group (II) (e.g. succinimide and maleimido groups) attached to
XX a less therapeutically active amino acid region (IV), which covalently
XX bonds with amino/hydroxyl/thiol groups on blood components to form a
XX peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
XX (I) are useful for modifying therapeutic peptides e.g. hormones, growth
XX factors and neurotransmitters, to protect them from peptidase activity
XX in vivo for the treatment of various disorders. Endogenous therapeutic
XX peptides are not suitable as drug candidates as they require frequent
XX administration due to rapid degradation by peptidases in the body.
XX Modifying and attaching therapeutic peptides to albumin prevents or
XX reduces the action of peptidases to increase length of activity (half
XX life) and specificity as bonding to large molecules decreases
XX intracellular uptake and interference with physiological processes.
XX AAB90829 to AAB92441 represent peptides which can be used in the
XX exemplification of the present invention.
SQ Sequence 37 AA;
AAB91169 Length: 37 January 22, 2004 18:02 Type: P Check: 2897
1 HDEFERHAEFTFTSDVSSYL EGQAQKEFIA MLVKGRG
11AA SEQUENCE 1.0
ID AAB30702 standard; Protein; 378 AA.
XX
XX AAB30702;
DT 02-APR-2001 (first entry)
DE A Bacillus pectate lyase and human GLP-1 hormone fusion protein.
XX Pectate lyase; pectinase; alpha-1,4-glycosidic linkage; pectic acid;
XX polygalacturonic acid; GLP-1.
XX Synthetic.
XX Bacillus licheniformis.
XX Homo sapiens.
XX Key Location/Qualifiers
XX Peptide 1..29
XX /note= "signal peptide"
XX Protein 30..343
XX /note= "pectate lyase"
XX Cleavage-site 346..347
XX /note= "Kex 2 endoprotease processing site"
XX Protein 348..378
XX /note= "GLP-1"
XX WO200075344-A1.
XX 14-DEC-2000.
XX 31-MAY-2000; 2000WO-DK00296.
XX 02-JUN-1999; 99DK-0000780.
XX 11-JUN-1999; 99US-0138692.
XX (NOVO) NOVO NORDISK AS.
XX Rasmussen MD, Bjoernvad ME, Diers I;
XX WPI; 2001-071079/08.
XX N-PSDB; AAC86599.
XX Bacillus cells having a DNA sequence coding for a pectate lyase, a
XX proteolytic cleavage target site, or a polypeptide of exogenous origin
XX fused sequentially into one open reading frame, for producing fusion
XX proteins in higher yields -
XX
XX Claim 19; Page 75-77; 94pp; English.
XX The present sequence encodes a fusion protein of a Bacillus pectate
XX lyase polypeptide and a human GLP-1 hormone polypeptide. Pectate
XX lyase is a pectinase which catalyses the random cleavage of
XX alpha-1,4-glycosidic linkages in pectic acid (polygalacturonic acid).
XX The fusion polypeptide is expressed using the cells of the invention.
XX The specification describes a cell for improved production of a fusion
XX protein comprising a native pectate lyase fused to an exogenous
XX polypeptide. The cell is preferably a gram positive cell. The cell is
XX useful for the production of higher yields of fusion proteins or
XX polypeptides, which have been difficult to obtain, such as active human
XX antibodies.
XX Sequence 378 AA;
AAB30702 Length: 378 January 22, 2004 18:02 Type: P Check: 1397
1 MKQQRRLYAR LUTLLFALIF LLPHSAAAAA SALNSGKVP LADPFLKQPA
51 ALNGGTTGGE GQQTVTVTG DQIAALAKNK NANTPLKIYV NGTITTSNTS
101 ASKIDVKDVS NVSIVSGGK GELKGIGIKI WRANNIIRN LKIHVVASGD
151 KDAIGIEGSPS KNIVWDHNL YHSLNVDKDY YDGLFDVKRD AEYITFSWNY
201 VHDGWSKMLM GSSDSDNYNR TITPHNWPE NLNSRVSPR FSGSHLYNNY
251 FNKIISGIN SRMGARIRIE NNLPENAKDP IVSWYSSSPG YHIVSNKFPV
301 NSRGSMPTTS TTYNPPYSY SLDNVDNVKS IVQNAGVGK INPASKRHAE

351 GTFTSDVSSV LEOQAAKEFI AWLVKGRG

!!AA SEQUENCE 1.0
ID AAB30703 standard; Protein; 386 AA.

AC AAB30703;
XX
DT 02-APR-2001 (first entry)

XX A Bacillus pectate lyase and human GLP-1 hormone fusion protein.
XX Pectate lyase; pectinase; alpha-1,4-glycosidic linkage; pectic acid;
KW polysaccharuronic acid; GLP-1.
XX

OS Synthetic.
OS Bacillus licheniformis.
OS Homo sapiens.

PH Key Location/Qualifiers
FT Peptide 1..29
FT /note= "signal peptide"
FT Protein 30..343
FT /note= "pectate lyase"
FT Peptide 346..353
FT /note= "PEPTPEPT linker"
FT Cleavage-site 354..355
FT /note= "Kex 2 endoprotease processing site"
FT Protein 356..386
FT /note= "GLP-1"
XX

PN W0200075344-A1.

XX 14-DEC-2000.

XX 31-MAY-2000; 2000MO-DK00296.

XX 02-JUN-1999; 99DK-0000780.

XX 11-JUN-1999; 99US-0138692.

XX (NOVO) NOVO NORDISK AS.

XX Rasmussen MD, Bjoernvad ME, Diers I;
XX WPI; 2001-071079/08.
DR N-PSDB; AAC86600.

XX Bacillus cells having a DNA sequence coding for a pectate lyase, a
PT proteolytic cleavage target site, or a polypeptide of exogenous origin
PT fused sequentially into one open reading frame, for producing fusion
PT proteins in higher yields -
XX

XX Claim 19; Page 79-81; 94pp; English.

XX The present sequence encodes a fusion protein of a Bacillus pectate
CC lyase polypeptide and a human GLP-1 hormone polypeptide. Pectate
CC lyase is a pectinase which catalyses the random cleavage of
CC alpha-1,4-glycosidic linkages in pectic acid (polygalacturonic acid).
CC The fusion polypeptide is expressed using the cells of the invention.
CC The specification describes a cell for improved production of a fusion
CC protein comprising a native pectate lyase fused to an exogenous
CC polypeptide. The cell is preferably a gram positive cell. The cell is
CC useful for the production of higher yields of fusion proteins or
CC polypeptides, which have been difficult to obtain, such as active human
CC antibodies.
XX

SQ Sequence 386 AA;

AAB30703 Length: 386 January 22, 2004 18:02 Type: P Check: 6043

1 MKQCKRLVAR LTLFLALIF LLPHSAAAAA SALNSGKYNP LADFLSLKQFA

51 ALNGGTTGGE GGQTVTVTTG DQLIALAKNK NANTPLKIYV NGTITTSNTS

101 ASKIDVKDVS NVSIVGSGTK GELKGIGIKI WRANNIIRN LKIHETVAGSD
151 KDAIGIEGPS KNIWDHNEH YHSLNVDKDY YDGLFDVKRD ASYITFSWNY
201 VHDGKWSMLM GSSDSNDYNR TITFHHNWE NLNSRVPSPR FOEGHYYNY
251 FNKIIDSGIN SRMGARIRIE NNLFFENAKDP IVSWYSSSPG YHVHNNKFA
301 NRGSMPTTS TTYNPPYSY SLONVDNKS IVKQAGVCK INPASPSPD
351 EPTKRAECT FTSDVSSYLE GOAAKEPIAW LVKGRG

!!AA SEQUENCE 1.0
ID AAB49694 standard; peptide; 31 AA.

XX AAB49694;

XX 04-APR-2001 (first entry)

XX Glucagon-like peptide 1 (GLP-1) amino acid sequence.

XX Glucagon-like peptide 1; 1-37; anti-diabetic; hypoglycaemic;
KW insulin expression stimulator; maturity onset diabetes mellitus;
KW hyperglycaemia.

XX Unidentified.

XX US6162907-A.

XX 19-DEC-2000.

XX 05-JUN-1998; 98US-0090949.

XX 26-JAN-1988; 88US-0148517.

XX 05-SEP-1991; 91US-0756215.

XX 23-NOV-1993; 93US-0156800.

XX 20-NOV-1996; 96US-0749762.

XX 05-MAY-1986; 86US-0859928.

XX 01-JUN-1990; 90US-0532111.

XX (GCHO) GEN HOSPITAL CORP.

XX Habener JF;

XX WPI; 2001-090410/10.

XX New DNA molecule encoding a fragment(7-37) of glucagon-like peptide 1
PT which has insulinotropic activity, and differs from the native 37 amino
PT acid residue peptide(7-37) of GLP-1 useful for treating type II
PT diabetes mellitus -
XX

XX Claim 1; Column 32; 37pp; English.

XX This invention relates to DNA encoding a fragment of glucagon-like
CC peptide 1 (1-37) represented by peptide AAB49694, which does not encode
CC the native GLP-1 (1-37) peptide represented in AAB49695. The peptide has
CC anti-diabetic and hypoglycaemic activity, and works as a insulin
CC expression stimulator. The insulinotropic hormone encoded by the DNA
CC sequence of the invention is useful in the study of the pathogenesis of
CC maturity onset diabetes mellitus and in the therapy and treatment of
CC diabetes mellitus and hyperglycaemia.
XX

SQ Sequence 31 AA;

AAB49694 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGTTSV SVYLEGQAAK EPIAWLVKGR G

!!AA SEQUENCE 1.0

ID AAB49695 standard; peptide; 37 AA.

XX AAB49695;

AC

XX DT 04-APR-2001 (first entry)
 XX DE Glucagon-like peptide 1 (GLP-1) native amino acid sequence.
 XX KW Glucagon-like peptide I; 1-37; anti-diabetic; hypoglycaemic;
 XX KW insulin expression stimulator; maturity onset diabetes mellitus;
 XX KW hyperglycaemia.
 XX OS Unidentified.
 XX PN US6162907-A.
 XX PD 19-DEC-2000.
 XX PF 05-JUN-1998; 98US-0090949.
 XX PR 26-JAN-1988; 88US-0148517.
 XX PR 05-SEP-1991; 91US-0756215.
 XX PR 23-NOV-1993; 93US-0156800.
 XX PR 20-NOV-1996; 96US-0749782.
 XX PR 05-MAY-1986; 86US-0859928.
 XX PR 01-JUN-1990; 90US-0532111.
 XX PA (GEOH) GEN HOSPITAL CORP.
 XX PI Habener JF;
 XX PD WPI; 2001-090410/10.
 XX PT New DNA molecule encoding a fragment(7-37) of glucagon-like peptide 1
 PT which has insulinotropic activity, and differs from the native 37 amino
 PT acid residue peptide(7-37) of GLP-1 useful for treating type II
 PT diabetes mellitus -
 XX PS Disclosure; Column 32; 37pp; English.
 XX CC This invention relates to DNA encoding a fragment of glucagon-like
 CC peptide I (1-37) represented by peptide AAB49694, which does not encode
 CC the native GLP-1 (1-37) peptide represented in AAB49695. The peptide has
 CC anti-diabetic and hypoglycaemic activity, and works as a insulin
 CC expression stimulator. The insulinotropic hormone encoded by the DNA
 CC sequence of the invention is useful in the study of the pathogenesis of
 CC maturity onset diabetes mellitus and in the therapy and treatment of
 CC diabetes mellitus and hyperglycaemia. The present sequence represents the
 CC native GLP-1 (1-37) peptide which is specifically not claimed.
 XX SQ Sequence 37 AA;
 AAB49695 Length: 37 January 22, 2004 18:02 Type: P Check: 2897
 1 HDEFERHAEG TFTSDVSSYL EGQAQKEFTA WLVKGRG
 IIAA SEQUENCE 1.0
 ID -AAB60246 standard; peptide; 37 AA.
 AC AAB60246;
 XX DT 28-MAR-2001 (first entry)
 XX DE Glucagon-like peptide-1, GLP-1 (1-37).
 XX KW Glucagon-like peptide-1; GLP-1 (1-37); type II diabetes;
 XX KW non-insulin dependent diabetes mellitus; NIDDM; beta-cell function;
 XX KW secretory capacity; impaired glucose tolerance; IGT;
 XX KW beta-cell stimulatory test; diagnostic test; insulinotropic.
 XX OS Homo sapiens.
 XX PN WO2000077039-A2.
 XX PD 21-DEC-2000.
 XX PF 28-MAR-2001 (first entry)
 XX DE Glucagon-like peptide-1, GLP-1 (1-37).
 XX KW Glucagon-like peptide-1; GLP-1 (1-37); type II diabetes;
 XX KW non-insulin dependent diabetes mellitus; NIDDM; beta-cell function;
 XX KW secretory capacity; impaired glucose tolerance; IGT;
 XX KW beta-cell stimulatory test; diagnostic test; insulinotropic.
 XX OS Homo sapiens.
 XX PN WO2000077039-A2.
 XX PD 21-DEC-2000.

PF 14-JUN-2000; 2000WO-US16428.
 XX PR 15-JUN-1999; 99US-0333415.
 XX PA (BION-) BIONEERASKA INC.
 XX PI Holst JJ, Vilseboll T;
 XX DR WPI; 2001-102518/11.
 XX PT Evaluating beta-cell secretory capacity and responsiveness to glucose,
 PT useful for diagnosing impaired glucose tolerance and diabetes,
 PT comprises employing glucagon-like-peptide-1 as a diagnostic test to
 PT determine beta-cell function -
 XX PS Disclosure; Page 11; 42pp; English.
 XX CC The invention relates to a new method for evaluating beta-cell secretory
 CC capacity in an individual, or responsiveness of a beta-cell to glucose,
 CC comprising the administration of glucose and glucagon-like peptide-1
 CC (GLP-1) or its biologically active analogues. The response in the
 CC individual is then measured against the standard response of a healthy
 CC individual to determine if the individual has impaired beta-cell
 CC function. The method is useful for detecting impaired beta-cell function
 CC in an individual, and is particularly useful for diagnosing impaired
 CC glucose tolerance (IGT) and non-insulin-dependent (type II) diabetes.
 CC The method is a rapid test of beta-cell function, which is a marker for
 CC impaired glucose tolerance. Unlike prior methods, the method is reliable
 CC and without significant adverse side effects and/or patient pain and
 CC discomfort. The method also provides information about insulin secretory
 CC capacity, and is easy and reproducible. The present sequence represents
 CC a GLP-1 related peptide referred to in the disclosure of the invention.
 XX SQ Sequence 37 AA;
 AAB60246 Length: 37 January 22, 2004 18:02 Type: P Check: 2897
 1 HDEFERHAEG TFTSDVSSYL EGQAQKEFTA WLVKGRG
 IIAA SEQUENCE 1.0
 ID -AAB60248 standard; peptide; 31 AA.
 XX AC AAB60248;
 XX DT 28-MAR-2001 (first entry)
 XX DE Glucagon-like peptide-1, GLP-1 (7-37).
 XX KW Glucagon-like peptide-1; GLP-1 (7-37); type II diabetes;
 XX KW non-insulin dependent diabetes mellitus; NIDDM; beta-cell function;
 XX KW secretory capacity; impaired glucose tolerance; IGT;
 XX KW beta-cell stimulatory test; diagnostic test; insulinotropic.
 XX OS Homo sapiens.
 XX PN WO2000077039-A2.
 XX PD 21-DEC-2000.
 XX PF 14-JUN-2000; 2000WO-US16428.
 XX PR 15-JUN-1999; 99US-0333415.
 XX PA (BION-) BIONEERASKA INC.
 XX PI Holst JJ, Vilseboll T;
 XX DR WPI; 2001-102518/11.
 XX PT Evaluating beta-cell secretory capacity and responsiveness to glucose,
 PT useful for diagnosing impaired glucose tolerance and diabetes,
 PT comprises employing glucagon-like-peptide-1 as a diagnostic test to
 PT determine beta-cell function -

XX Claim 4; Page 11; 42pp; English.
 XX The invention relates to a new method for evaluating beta-cell secretory
 CC capacity in an individual, or responsiveness of a beta-cell to glucose,
 CC comprising the administration of glucose and glucagon-like peptide-1
 CC (GLP-1) or its biologically active analogues. The response in the
 CC individual is then measured against the standard response of a healthy
 CC individual to determine if the individual has impaired beta-cell
 CC function. The method is useful for detecting impaired beta-cell
 CC in an individual, and is particularly useful for diagnosing impaired
 CC glucose tolerance (IGT) and non-insulin-dependent (type II) diabetes.
 CC The method is a rapid test of beta-cell function, which is a marker for
 CC impaired glucose tolerance. Unlike prior methods, the method is reliable
 CC and without significant adverse side effects and/or patient pain and
 CC discomfort. The method also provides information about insulin secretory
 CC capacity, and is easy and reproducible. The present sequence represents
 CC a GLP-1 related peptide specifically claimed for use in the method
 CC of the invention.
 XX Sequence 31 AA;
 SQ AAB60248 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGETTSDV SLYLEGQAQK EFIWLVKGR G
 !!AA SEQUENCE 1.0
 ID AAB48790 standard; peptide; 37 AA.
 AC AAB48790;
 XX 09-MAR-2001 (first entry)
 DT Glucagon-like peptide 1 (GLP-1), SEQ ID NO:1.
 DE Insulinotropic peptide; insulin production; GLP-1 derivative;
 KW glucagon-like peptide 1; exendin derivative; reactive group;
 KW peptidase stabilisation; blood protein; conjugation; type II diabetes;
 KW insulin resistance; nervous system disorder; sedative; anxiolytic;
 KW antidiabetic; neuroprotective; tranquiliser; anticonvulsant.
 XX Unidentified.
 OS WO200069911-A1.
 XX 23-NOV-2000.
 PD 17-MAY-2000; 2000WO-US13563.
 PF 17-MAY-1999; 99US-0134406.
 XX 15-OCT-1999; 99US-0159783.
 PR (CONJ-) CONJUCHEM INC.
 PA Bridon DP, L'Archeveque B, Ezrin AM, Holmes DL, Leblanc A;
 PI St Pierre S;
 XX WPI; 2001-025008/03.
 XX Novel modified insulinotropic peptides for treating diabetes, nervous
 PT system disorders and for post surgery treatment, has reactive groups
 PT which react with amino, hydroxy or thiol groups on blood components -
 XX Disclosure; Page 85; 96pp; English.
 XX The invention relates to modified insulinotropic peptides (IPPs), or
 CC derivatives thereof which comprise a reactive group which reacts with
 CC amino groups, hydroxyl groups or thiol groups on blood components (e.g.,
 CC serum albumin) to form a stable covalent bond. The insulinotropic
 CC peptides of the invention are derivatives of glucagon-like peptide 1
 CC (GLP-1) or exendin and contain a reactive group such as a maleimido
 CC group or a succinimidyl group. The peptides of the invention act by
 CC stimulating the synthesis or expression of insulin. A composition
 CC comprising a peptide of the invention is useful for treating diabetes,
 CC particularly type II (maturity onset) diabetes. It is also useful as a
 CC sedative; for the treatment of nervous system disorders including
 CC anxiety, psychosis, seizures, panic attacks, hysteria and sleep
 CC disorders; to induce an anxiolytic effect on the central nervous system

CC comprising a peptide of the invention is useful for treating diabetes,
 CC particularly type II (maturity onset) diabetes. It is also useful as a
 CC sedative; for the treatment of nervous system disorders including
 CC anxiety, psychosis, seizures, panic attacks, hysteria and sleep
 CC disorders; to induce an anxiolytic effect on the central nervous system
 CC (CNS); to activate the CNS for the treatment of disorders such as
 CC depression, memory loss and narcolepsy; and as a treatment for
 CC insulin resistance, particularly that which occurs after certain types
 CC of surgery. The conjugation of a peptide of the invention to a
 CC blood component via the reactive group provides increased stability in
 CC the presence of peptidases. The peptides of the invention therefore
 CC have a longer in vivo half-life as they are less susceptible to
 CC proteolytic degradation. The present sequence represents an
 CC insulinotropic peptide referred to in the disclosure of the invention.
 XX Sequence 37 AA;
 SQ AAB48790 Length: 37 January 22, 2004 18:02 Type: P Check: 2897

1 HDEPERHAEQ TPTSDVSSYL EGQAKEPIA WLKGRG
 !!AA SEQUENCE 1.0
 ID AAB48791 standard; peptide; 31 AA.
 AC AAB48791;
 XX 09-MAR-2001 (first entry)
 DT Glucagon-like peptide 1 derivative GLP-1(7-37), SEQ ID NO:2.
 DE Insulinotropic peptide; insulin production; GLP-1 derivative;
 KW glucagon-like peptide 1; exendin derivative; reactive group;
 KW peptidase stabilisation; blood protein; conjugation; type II diabetes;
 KW insulin resistance; nervous system disorder; sedative; anxiolytic;
 KW antidiabetic; neuroprotective; tranquiliser; anticonvulsant.
 XX Synthetic.
 OS WO200069911-A1.
 XX 23-NOV-2000.
 PD 17-MAY-2000; 2000WO-US13563.
 PF 17-MAY-1999; 99US-0134406.
 XX 15-OCT-1999; 99US-0159783.
 PR (CONJ-) CONJUCHEM INC.
 PA Bridon DP, L'Archeveque B, Ezrin AM, Holmes DL, Leblanc A;
 PI St Pierre S;
 XX WPI; 2001-025008/03.
 XX Novel modified insulinotropic peptides for treating diabetes, nervous
 PT system disorders and for post surgery treatment, has reactive groups
 PT which react with amino, hydroxy or thiol groups on blood components -
 XX Claim 4; Page 86; 96pp; English.
 XX The invention relates to modified insulinotropic peptides (IPPs), or
 CC derivatives thereof which comprise a reactive group which reacts with
 CC amino groups, hydroxyl groups or thiol groups on blood components (e.g.,
 CC serum albumin) to form a stable covalent bond. The insulinotropic
 CC peptides of the invention are derivatives of glucagon-like peptide 1
 CC (GLP-1) or exendin and contain a reactive group such as a maleimido
 CC group or a succinimidyl group. The peptides of the invention act by
 CC stimulating the synthesis or expression of insulin. A composition
 CC comprising a peptide of the invention is useful for treating diabetes,
 CC particularly type II (maturity onset) diabetes. It is also useful as a
 CC sedative; for the treatment of nervous system disorders including
 CC anxiety, psychosis, seizures, panic attacks, hysteria and sleep
 CC disorders; to induce an anxiolytic effect on the central nervous system

CC (CNS); to activate the CNS for the treatment of disorders such as
 CC depression, memory loss and narcolepsy; and as a treatment for
 CC insulin resistance, particularly that which occurs after certain types
 CC of surgery. The conjugation of a peptide of the invention to a
 CC blood component via the reactive group provides increased stability in
 CC the presence of peptidases. The peptides of the invention therefore
 CC have a longer in vivo half-life as they are less susceptible to
 CC proteolytic degradation. The present sequence represents an
 CC insulinotropic peptide of the invention.

SQ Sequence 31 AA;

AAB48791 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGETTSDV SSYLEGQAAK EPIAWLVKGR G

IIAA SEQUENCE 1.0

ID AAB36413 standard; peptide; 37 AA.

XX AAB36413;

DT 28-FEB-2001 (first entry)

DE Glucagon-like peptide-1 (1-37) SEQ ID NO:1.

XX Glucagon-like peptide-1; GLP-1; GLP-2; vasotropic; cerebroprotective;
 KW brain tissue injury; reperfusion; blood flow; ischaemia; acute stroke;
 KW metabolic intervention; haemorrhage; tissue damage; medical procedure;
 KW surgical; insulin; hyperglycaemia; hypoglycaemia; brain anabolism;
 KW euglycaemia.

XX Mammalia.

XX WO200066142-A2.

XX 09-NOV-2000.

XX 01-MAY-2000; 2000WO-US11652.

XX 30-APR-1999; 99US-0303016.

XX (BION-) BIONEERASKA INC.

XX Coolidge TR, Ehlers MRW;

XX WPI; 2001-015911/02.

XX A method for amelioration of brain tissue injury comprises
 PT administering a composition including a compound which binds to a
 PT receptor for glucagon-like peptide-1

XX Disclosure; Page 7; 19pp; English.

XX The present invention describes a method for the amelioration of brain
 CC tissue injury caused by reperfusion of blood flow comprising
 CC administering a composition including a compound which binds to a
 CC receptor for glucagon-like peptide-1 (GLP-1), in a pharmaceutical
 CC carrier. The method is used for amelioration of brain tissue injury
 CC caused by reperfusion of blood flow following a period of ischaemia.
 CC GLP-1 is used for metabolic intervention to improve the function of
 CC ischaemic and reperfusion brain cells. It treats patients after an acute
 CC stroke or haemorrhage and tissue damage arising from a medical procedure
 CC that is a surgical event causing ischaemia of brain tissue or a medical
 CC procedure involving a reperfusion event. GLP-1 is an ideal alternative
 CC to insulin for the treatment of stroke as it stimulates endogenous
 CC insulin secretion in the presence of normo- to hyperglycaemia but not
 CC during hypoglycaemia, thus protecting against the development of severe
 CC hypoglycaemia. The treatment optimises insulin secretion, increases
 CC brain anabolism, enhancing insulin effectiveness by suppressing glucagon
 CC and maintains euglycaemia or mild hypoglycaemia with no risk of severe
 CC hypoglycaemia. The present sequence represents a GLP-1 peptide which is
 CC given in the exemplification of the present invention.

SQ Sequence 37 AA;

AAB36413 Length: 37 January 22, 2004 18:02 Type: P Check: 2897

1 HDEFERHARG TTTSDVSSYL EQQAKKEPIA WLKGRG

IIAA SEQUENCE 1.0

ID AAB36415 standard; peptide; 31 AA.

XX AAB36415;

DT 28-FEB-2001 (first entry)

DE Glucagon-like peptide-1 (7-37) SEQ ID NO:3.

XX Glucagon-like peptide-1; GLP-1; GLP-2; vasotropic; cerebroprotective;
 KW brain tissue injury; reperfusion; blood flow; ischaemia; acute stroke;
 KW metabolic intervention; haemorrhage; tissue damage; medical procedure;
 KW surgical; insulin; hyperglycaemia; hypoglycaemia; brain anabolism;
 KW euglycaemia.

XX Mammalia.

XX WO200066142-A2.

XX 09-NOV-2000.

XX 01-MAY-2000; 2000WO-US11652.

XX 30-APR-1999; 99US-0303016.

XX (BION-) BIONEERASKA INC.

XX Coolidge TR, Ehlers MRW;

XX WPI; 2001-015911/02.

XX A method for amelioration of brain tissue injury comprises
 PT administering a composition including a compound which binds to a
 PT receptor for glucagon-like peptide-1

XX Disclosure; Page 7; 19pp; English.

XX The present invention describes a method for the amelioration of brain
 CC tissue injury caused by reperfusion of blood flow comprising
 CC administering a composition including a compound which binds to a
 CC receptor for glucagon-like peptide-1 (GLP-1), in a pharmaceutical
 CC carrier. The method is used for amelioration of brain tissue injury
 CC caused by reperfusion of blood flow following a period of ischaemia.
 CC GLP-1 is used for metabolic intervention to improve the function of
 CC ischaemic and reperfusion brain cells. It treats patients after an acute
 CC stroke or haemorrhage and tissue damage arising from a medical procedure
 CC that is a surgical event causing ischaemia of brain tissue or a medical
 CC procedure involving a reperfusion event. GLP-1 is an ideal alternative
 CC to insulin for the treatment of stroke as it stimulates endogenous
 CC insulin secretion in the presence of normo- to hyperglycaemia but not
 CC during hypoglycaemia, thus protecting against the development of severe
 CC hypoglycaemia. The treatment optimises insulin secretion, increases
 CC brain anabolism, enhancing insulin effectiveness by suppressing glucagon
 CC and maintains euglycaemia or mild hypoglycaemia with no risk of severe
 CC hypoglycaemia. The present sequence represents a GLP-1 peptide which is
 CC given in the exemplification of the present invention.

XX Sequence 31 AA;

AAB36415 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGETTSDV SSYLEGQAAK EPIAWLVKGR G

IIAA SEQUENCE 1.0

ID AAB36426 standard; peptide; 37 AA.

XX AAB36426;

XX DT 28-FEB-2001 (first entry)
 XX DE Glucagon-like peptide-1 (1-37) SEQ ID NO:1.
 XX KW Glucagon-like peptide-1; GLP-1; GLP-2; metabolic intervention;
 KW ischaemia; reperfusion; surgical procedure; cardiac surgical procedure;
 KW organ transplant; traumatic limb amputation; limb reattachment;
 KW ischaemic reperfusion; gut infarct; myocardial infarct.
 XX OS Mammalia.
 XX PN WO200066138-A2.
 XX PD 09-NOV-2000.
 XX PF 27-APR-2000; 2000WO-US11251.
 XX PR 30-APR-1999; 99US-0302596.
 XX PA (BION-) BIONEBRASKA INC.
 XX PI Coolidge TR, Ehlers MRW;
 XX DR WPI; 2001-040881/05.
 XX PT Metabolic intervention with GLP-1 improves function of ischemic and
 PT reperused tissue -
 XX PS Disclosure; Page 11; 22pp; English.
 XX CC The present invention describes metabolic intervention with GLP-1 which
 CC improves the function of ischaemic and reperused tissue. The method for
 CC amelioration of organ tissue caused by reperfusion of blood flow
 CC following a period of ischaemia comprises administering a composition
 CC including a compound which binds to a receptor for glucagon-like
 CC peptide-1 (GLP-1), in a carrier. Also described are: (1) a method of
 CC metabolic intervention with GLP-1 to improve the function of ischaemic
 CC and reperused tissue, the method comprising administering a composition
 CC comprising GLP-1 in a carrier; and (2) a composition for use in the
 CC metabolic intervention with GLP-1 as above. The method is useful after
 CC surgical procedures selected from cardiac surgical procedures, organ
 CC transplants, traumatic limb amputation and reattachment, a ischaemic
 CC reperfusion event concurrent with gut infarct and myocardial infarct
 CC and improves the function of ischaemic and reperused tissues. The
 CC method is devoid of side effects associated with current procedures.
 CC Antigenic and immune stimulating properties are not adversely affected.
 CC The present sequence represents a GLP-1 peptide which is given in the
 CC exemplification of the present invention.
 XX SQ Sequence 37 AA;
 AAB36426 Length: 37 January 22, 2004 18:02 Type: P Check: 2897 ..
 1 HDEFERHAEQ TTFSDVSSYL EQQAKEFIA WLWVKGRG
 !!AA_SEQUENCE 1.0
 ID AAB36426 standard; peptide; 31 AA.
 XX AC AAB36426;
 XX DT 28-FEB-2001 (first entry)
 XX DE Glucagon-like peptide-1 (7-37) SEQ ID NO:3.
 XX KW Glucagon-like peptide-1; GLP-1; GLP-2; metabolic intervention;
 KW ischaemia; reperfusion; surgical procedure; cardiac surgical procedure;
 KW organ transplant; traumatic limb amputation; limb reattachment;
 KW ischaemic reperfusion; gut infarct; myocardial infarct.
 XX OS Mammalia.
 XX PN WO200066138-A2.

XX PD 09-NOV-2000.
 XX PF 27-APR-2000; 2000WO-US11251.
 XX PR 30-APR-1999; 99US-0302596.
 XX PA (BION-) BIONEBRASKA INC.
 XX PI Coolidge TR, Ehlers MRW;
 XX DR WPI; 2001-040881/05.
 XX PT Metabolic intervention with GLP-1 improves function of ischemic and
 PT reperused tissue -
 XX PS Disclosure; Page 11; 22pp; English.
 XX CC The present invention describes metabolic intervention with GLP-1 which
 CC improves the function of ischaemic and reperused tissue. The method for
 CC amelioration of organ tissue caused by reperfusion of blood flow
 CC following a period of ischaemia comprises administering a composition
 CC including a compound which binds to a receptor for glucagon-like
 CC peptide-1 (GLP-1), in a carrier. Also described are: (1) a method of
 CC metabolic intervention with GLP-1 to improve the function of ischaemic
 CC and reperused tissue, the method comprising administering a composition
 CC comprising GLP-1 in a carrier; and (2) a composition for use in the
 CC metabolic intervention with GLP-1 as above. The method is useful after
 CC surgical procedures selected from cardiac surgical procedures, organ
 CC transplants, traumatic limb amputation and reattachment, a ischaemic
 CC reperfusion event concurrent with gut infarct and myocardial infarct
 CC and improves the function of ischaemic and reperused tissues. The
 CC method is devoid of side effects associated with current procedures.
 CC Antigenic and immune stimulating properties are not adversely affected.
 CC The present sequence represents a GLP-1 peptide which is given in the
 CC exemplification of the present invention.
 XX SQ Sequence 31 AA;
 AAB36428 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
 1 HAEGTFTSDV SSYLEGQAAK EPIAWLVKGR G
 !!AA_SEQUENCE 1.0
 ID AAB85919 standard; peptide; 37 AA.
 XX AC AAB85919;
 XX DT 30-NOV-2001 (first entry)
 XX DE Glucagon-like peptide-1 (GLP-1) fragment (residues 1-37).
 XX KW GLP-1; organ tissue; injury; reperfusion; ischaemia; glucose;
 KW glucagon-like peptide-1; vasotropic; antiarrhythmic; antidiabetic.
 XX OS Mammalia.
 XX PN US6284725-B1.
 XX PD 04-SEP-2001.
 XX PF 30-APR-1999; 99US-0302596.
 XX PR 08-OCT-1998; 98US-0103498.
 XX PA (BION-) BIONEBRASKA INC.
 XX PI Coolidge TR, Ehlers MRW;
 XX DR WPI; 2001-564393/63.
 XX PT Use of glucagon-like peptide-one for amelioration of organ tissue e.g.
 PT myocardium, injury after ischemia -

XX PS Disclosure; Column 8; 10pp; English.

XX CC The invention is directed towards the amelioration of organ tissue injury

CC caused by reperfusion of blood flow after ischemia. The method involves

CC administering a composition containing a compound which binds to a

CC receptor for glucagon-like peptide-1 (GLP-1) in a carrier. GLP-1

CC effectively enhances peripheral glucose uptake without inducing dangerous

CC hypoglycemia. GLP-1 strongly suppresses glucagon secretion, independent

CC of its insulinotropic action and powerfully reduces plasma free fatty

CC acid (FFA) level having major toxic mechanism during myocardial ischemia,

CC substantially more than can be accomplished with insulin. The method is

CC without side effects normally attendant with therapies presently

CC available. GLP-1 suppresses paracrine by intra-islet release of insulin

CC or somatostatin. GLP-1 is unique in its capacity to simultaneously

CC stimulate insulin secretion and inhibit glucagon release. The present

CC sequence represents a peptide fragment of mammalian GLP-1.

XX SQ Sequence 37 AA;

AAB85919 Length: 37 January 22, 2004 18:02 Type: P Check: 2897

1 HDEPHERAEG TETSDVSSYL EQQAKEFIA WLKRGK

11AA SEQUENCE 1.0

ID AAB85921 standard; peptide; 31 AA.

XX AC AAB85921;

XX DT 30-NOV-2001 (first entry)

XX DE Glucagon-like peptide-1 (GLP-1) fragment (residues 7-37).

XX KW GLP-1; organ tissue; injury; reperfusion; ischemia; glucose;

XX KW Glucagon-like peptide-1; vasotropic; antiarrhythmic; antidiabetic.

XX OS Mammalia.

XX PN US6284725-B1.

XX PD 04-SEP-2001.

XX PF 30-APR-1999; 99US-0302596.

XX PR 08-OCT-1998; 98US-0103498.

XX PA (BION-) BIONEERASKA INC.

XX PI Coolidge TR, Ehlers MRW;

XX DR WPI; 2001-564393/63.

XX PT Use of glucagon-like peptide-one for amelioration of organ tissue e.g.

XX PT myocardium, injury after ischemia

XX PS Disclosure; Column 8; 10pp; English.

XX CC The invention is directed towards the amelioration of organ tissue injury

CC caused by reperfusion of blood flow after ischemia. The method involves

CC administering a composition containing a compound which binds to a

CC receptor for glucagon-like peptide-1 (GLP-1) in a carrier. GLP-1

CC effectively enhances peripheral glucose uptake without inducing dangerous

CC hypoglycemia. GLP-1 strongly suppresses glucagon secretion, independent

CC of its insulinotropic action and powerfully reduces plasma free fatty

CC acid (FFA) level having major toxic mechanism during myocardial ischemia,

CC substantially more than can be accomplished with insulin. The method is

CC without side effects normally attendant with therapies presently

CC available. GLP-1 suppresses paracrine by intra-islet release of insulin

CC or somatostatin. GLP-1 is unique in its capacity to simultaneously

CC stimulate insulin secretion and inhibit glucagon release. The present

CC sequence represents a peptide fragment of mammalian GLP-1.

XX SQ Sequence 31 AA;

AAB85921 Length: 31 January 22, 2004 18:02 Type: P Check: 7361

1 HAEGFTSDV SSYLEGQAQK EPTAWLVKGR G

11AA SEQUENCE 1.0

ID AAE32655 standard; peptide; 52 AA.

XX AC AAE32655;

XX DT 24-MAR-2003 (first entry)

XX DE GLP-1 (7-37)-human IgG1 mutant Fc region fusion protein; junction peptide.

XX KW Immunogenic; therapy; albumin; mutant; mutagen; glucagon-like peptide-1;

XX KW GLP-1 protein; Fc region; human; immunoglobulin G1; IgG1.

XX OS Chimeric - Homo sapiens.

XX OS Chimeric - Unidentified.

XX FH Key Location/Qualifiers

FT Region 1..31

FT /note= "GLP-1 (7-37) peptide"

FT Region 32..52

FT /note= "Human IgG1 Fc mutant peptide"

XX PN WO200279415-A2.

XX PD 10-OCT-2002.

XX PF 29-MAR-2002; 2002WO-US09650.

XX PR 30-MAR-2001; 2001US-280625P.

XX PA (LEXI-) LEXIGEN PHARM CORP.

XX PI Gillies SD;

XX DR WPI; 2003-111794/10.

XX PT Reducing the immunogenicity of a fusion protein by changing an amino

XX PT acid within the junction region spanning a fusion junction of a fusion

XX PT protein to reduce the ability of the candidate T-cell epitope to

XX PT interact with a T-cell receptor

XX PS Example 6; Page 59; 67pp; English.

XX CC The present invention relates to a method of reducing the immunogenicity

CC of a fusion protein. The method involves identifying a candidate T-cell

CC epitope within a junction region spanning a fusion junction of a fusion

CC protein and changing an amino acid within the junction region to reduce

CC the ability of the candidate T-cell epitope to interact with a T-cell

CC receptor. The method is useful for reducing the immunogenicity of fusion

CC proteins for use in therapy. The present sequence is glucagon-like

CC peptide (GLP-1, 7-37)-human immunoglobulin G1 (IgG1) mutant Fc region

CC fusion protein junction peptide. This sequence is used to illustrate

CC the method of the invention.

XX SQ Sequence 52 AA;

AAE32655 Length: 52 January 22, 2004 18:02 Type: P Check: 3731

1 HAEGFTSDV SSYLEGQAQK EPTAWLVKGR GBPKSSDKTH TCPPCPAPBL

51 LG

11AA SEQUENCE 1.0

ID AAE32943 standard; peptide; 52 AA.

XX AC AAE32943;

XX DT 24-MAR-2003 (first entry)

XX

DE GLP-1 (7-37)-human IgG1 mutant Fc region fusion peptide.
 XX T-cell; immunogenic; therapy; Fc region; fusion peptide; mutant; mutein;
 KW glucagon like peptide-1; GLP-1; human; immunoglobulin G1; IgG1.
 XX Chimeric - Homo sapiens.
 OS Chimeric - Unidentified.
 XX Key Location/Qualifiers
 FT Region 1..31
 FT /note= "GLP-1 (7-37) peptide"
 FT Region 32..52
 FT /note= "Fc mutant peptide"
 XX WO200279232-A2.
 PN 10-OCT-2002.
 PD 30-MAR-2002; 2002WO-US09815.
 PF 30-MAR-2001; 2001US-280625P.
 PR (LEXI-) LEXIGEN PHARM CORP.
 XX Gillies SD;
 PI WPI; 2003-103259/09.
 DR Reducing the immunogenicity of a fusion protein comprises changing an
 XX amino acid within the junction region to reduce the ability of the
 PT candidate T-cell epitope identified within the junction spanning to
 PT interact with T-cell receptor.
 XX Example 6; Page 59-60; 68pp; English.
 PS The invention relates to a method for reducing the immunogenicity of a
 XX fusion protein which involves identifying a candidate T-cell epitope
 CC within a junction spanning a fusion junction of a fusion protein, and
 CC changing an amino acid within the junction region to reduce the ability
 CC of the candidate T-cell epitope to interact with a T-cell receptor. The
 CC method is useful for reducing the immunogenicity of a fusion protein.
 CC It is useful for analysing, changing or modifying one or more amino
 CC acids in the junction region of a fusion protein to identify a T-cell
 CC epitope and reduce its ability to interact with a T-cell receptor. The
 CC less immunogenic fusion proteins are useful in providing therapeutic
 CC treatment. The present sequence is glucagon like peptide-1 (GLP-1; 7-37)-
 CC human immunoglobulin G1 (IgG1) mutant Fc region fusion peptide. This
 CC peptide is used to illustrate the method of the invention.
 XX Sequence 52 AA;
 SQ
 AAE32943 Length: 52 January 22, 2004 18:02 Type: P Check: 3731 ..
 1 HAEGTFTSDV SSYLEGQAAK EFIAVLVKGR GEKSSDKTH TCCPCAPPEL
 51 LG
 IIAA_SEQUENCE 1.0
 ID AAE30127 standard; peptide; 31 AA.
 XX AAE30127;
 AC 24-FEB-2003 (first entry)
 DT Glucagon-like peptide-1 (GLP-1).
 XX Immunoglobulin; Ig; antibody; immunocytokine; immunofusion; immunoligand;
 KW protease resistance; glucagon-like peptide-1; GLP-1.
 XX Unidentified.
 OS WO200272605-A2.
 XX

PD 19-SEP-2002.
 XX 07-MAR-2002; 2002WO-US07011.
 PF 07-MAR-2001; 2001US-274098P.
 PR (LEXI-) LEXIGEN PHARM CORP.
 XX Gillies SD, Way J;
 PI WPI; 2003-018726/01.
 DR N-ESDB; AAD47634.
 XX New fusion protein, useful for producing antibodies, immunocytokines or
 PT Fc fusion proteins that enhance the expression or protease resistance
 PT of a fusion protein, comprises an immunoglobulin (Ig) moiety fused to a
 PT non-Ig moiety.
 XX Example 3; Page 63; 71pp; English.
 PS The present invention relates to methods and compositions for efficiently
 XX expressing antibody fusion proteins. The invention also relates to novel
 CC fusion proteins comprising an immunoglobulin (Ig) moiety fused to a non-
 CC immunoglobulin moiety where the immunoglobulin moiety comprises a first
 CC domain from a first antibody isotype and a second domain from a second
 CC antibody isotype. The antibodies or Ig fusion proteins are useful to
 CC produce intact antibodies, immunocytokines, immunofusions, immunoligands
 CC and other antibody and Fc fusion proteins that enhance the expression,
 CC proper oligomerisation, purification and protease resistance of desired
 CC fusion proteins, optionally with modified, combined or decreased Fc
 CC effector functions. The present sequence is glucagon-like peptide-1
 CC (GLP-1). This sequence is used in the exemplification of the invention.
 XX Sequence 31 AA;
 SQ
 AAE30127 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
 1 HAEGTFTSDV SSYLEGQAAK EFIAVLVKGR G
 IIAA_SEQUENCE 1.0
 ID AAE30904 standard; peptide; 31 AA.
 XX AAE30904;
 AC 24-FEB-2003 (first entry)
 DT Human glucagon-like peptide 1, GLP-1 (7-37) OH.
 XX Human; glucagon-like peptide 1; GLP-1; albumin; immunoglobulin; Ig;
 KW therapy; non-insulin diabetes mellitus; obesity; antidiabetic;
 KW anorectic.
 XX Homo sapiens.
 OS WO200246227-A2.
 PN 13-JUN-2002.
 PD 29-NOV-2001; 2001WO-US43165.
 XX 07-DEC-2000; 2000US-251954P.
 PR (ELIL) LILLY & CO ELI.
 PA Glaesner W, Micanovic R, Tschang SR;
 PI WPI; 2003-018534/01.
 DR Novel heterologous fusion protein, useful for treating non-insulin
 XX dependent diabetes mellitus or obesity, comprises a glucagon-like
 PT peptide 1 compound fused to human albumin or to the Fc portion of an
 PT immunoglobulin.
 XX

PS Disclosure; Page 7; 200pp; English.

XX The invention relates to a heterologous fusion protein comprising a
 CC first polypeptide fused to a second polypeptide, where the polypeptides
 CC has a N-terminus and a C-terminus and the second is a human albumin or its
 CC -like peptide 1 (GLP-1) compound and the first polypeptide is a glucagon
 CC analogue or fragment, where the C-terminus of an immunoglobulin (Ig) or its
 CC analogue or fragment, where the C-terminus of first polypeptide is fused
 CC to the N-terminus of the second polypeptide. The invention is useful for
 CC normalising blood glucose levels in mammal, for treating a patient with
 CC non-insulin diabetes mellitus or obesity, or for the manufacture of
 CC medicament for treating the above mentioned diseases. The present
 CC sequence is human GLP-1 (7-37) OH peptide.

XX Sequence 31 AA;

AAE30904 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTFTSDV SSYLEGQAAK EFIAWLKGR G

!!AA SEQUENCE 1.0

ID _AAE30916 standard; Protein; 616 AA.

XX AAE30916;

XX 24-FEB-2003 (first entry)

XX Val8-GLP-1-human serum albumin (HSA) fusion protein.

XX Human; glucagon-like peptide 1; GLP-1; albumin; immunoglobulin; Ig;
 XX therapy; non-insulin diabetes mellitus; obesity; antidiabetic;
 XX anorectic; fusion protein.

XX Chimeric - Homo sapiens.

XX Chimeric - Unidentified.

XX WO200246227-A2.

XX 13-JUN-2002.

XX 29-NOV-2001; 2001WO-US43165.

XX 07-DEC-2000; 2000US-251954P.

XX (ELIL) LILLY & CO ELI.

XX Gläesner W, Micanovic R, Tschang SR;

XX WPI; 2003-018534/01.

XX Novel heterologous fusion protein, useful for treating non-insulin
 XX dependent diabetes mellitus or obesity, comprises a glucagon-like
 XX peptide 1 compound fused to human albumin or to the Fc portion of an
 XX immunoglobulin -

XX Example 6; Page 80; 200pp; English.

XX The invention relates to a heterologous fusion protein comprising a
 CC first polypeptide fused to a second polypeptide, where the polypeptides
 CC has a N-terminus and a C-terminus and the first polypeptide is a glucagon
 CC -like peptide 1 (GLP-1) compound and the second is a human albumin or its
 CC analogue or fragment, where the C-terminus of an immunoglobulin (Ig) or its
 CC analogue or fragment, where the C-terminus of first polypeptide is fused
 CC to the N-terminus of the second polypeptide. The invention is useful for
 CC normalising blood glucose levels in mammal, for treating a patient with
 CC non-insulin diabetes mellitus or obesity, or for the manufacture of
 CC medicament for treating the above mentioned diseases. The present
 CC sequence is GLP-1 fusion protein.

XX Sequence 616 AA;

AAE30916 Length: 616 January 22, 2004 18:02 Type: P Check: 9940 ..

1 HVEGTTSDV SSYLEGQAAK EFIAWLKGR GDAHKSEVAH RFKDLQSENF
 51 KALVLIAPAQ YLOQCPEDH VKLVNEVTER AKTCVADBSA ENCDKSLHTL
 101 FGDKLCTVAT LRITYGEMAD CCAKQEPERN ECFQHKDDN PNLPRVARE
 151 VDVNCTAPHD NERTFLKKYL YFIARRHPYP YAPELLFPK RYKAAFTED
 201 QAAKAACLL PKLDELARDEG KASSAKQRLK CASLQKQGER AFKAWAVAR
 251 SORPPKAEFA EVSKLVTDLT KVHTECHGD LLECAADDRAD LAKYICNO
 301 SISKKLKCC EKPLLEKSHC IAEVDEMP ADLPSLAADF VESKDVKNY
 351 AEAKDVFLGM FLYEYARRHP DYSVLLLRLL AKTYETTLK CCAADRHEC
 401 YAKVFDEPKP LVEEPQNLK QNCELPEQLG EYKFNALLV RYTKKVRQS
 451 TPTLVEVGRN LGKVGSKCK HPEAKMPCA EBYLSVVLNQ LCVLHKTIV
 501 SDRVTKCCTE SLVNRRCPS ALEVDITYVP KEFNAETTFP HADICTLSEK
 551 ERQIKKQAL VELVKKPKA TKEQLKAVMD DPAAPVEKCC KADDKETCPA
 601 EGGKLVAAAS QAAALGL

!!AA SEQUENCE 1.0

ID _AAE30917 standard; Protein; 631 AA.

XX AAE30917;

XX 24-FEB-2003 (first entry)

XX Val8-GLP-1-linker-human serum albumin (HSA) fusion protein.

XX Human; glucagon-like peptide 1; GLP-1; albumin; immunoglobulin; Ig;
 XX therapy; non-insulin diabetes mellitus; obesity; antidiabetic;
 XX anorectic; fusion protein.

XX Chimeric - Homo sapiens.

XX Chimeric - Unidentified.

XX WO200246227-A2.

XX 13-JUN-2002.

XX 29-NOV-2001; 2001WO-US43165.

XX 07-DEC-2000; 2000US-251954P.

XX (ELIL) LILLY & CO ELI.

XX Gläesner W, Micanovic R, Tschang SR;

XX WPI; 2003-018534/01.

XX Novel heterologous fusion protein, useful for treating non-insulin
 XX dependent diabetes mellitus or obesity, comprises a glucagon-like
 XX peptide 1 compound fused to human albumin or to the Fc portion of an
 XX immunoglobulin -

XX Example 6; Page 80; 200pp; English.

XX The invention relates to a heterologous fusion protein comprising a
 CC first polypeptide fused to a second polypeptide, where the polypeptides
 CC has a N-terminus and a C-terminus and the first polypeptide is a glucagon
 CC -like peptide 1 (GLP-1) compound and the second is a human albumin or its
 CC analogue or fragment, where the C-terminus of an immunoglobulin (Ig) or its
 CC analogue or fragment, where the C-terminus of first polypeptide is fused
 CC to the N-terminus of the second polypeptide. The invention is useful for
 CC normalising blood glucose levels in mammal, for treating a patient with
 CC non-insulin diabetes mellitus or obesity, or for the manufacture of
 CC medicament for treating the above mentioned diseases. The present

CC sequence is GLP-1 fusion protein.
XX Sequence 631 AA;
AAE30917 Length: 631 January 22, 2004 18:02 Type: P Check: 1796
1 HVEGFTSDV SSYLEGQAAK EFTAWLVKGR GGGGGGGG SGGGSDAHK
51 SEVAHREKDL GEENFKALVL IAFAYLQOC PFEDHVKLVN EVTEPAKTCV
101 ADESAENCCK SLHTLFGDKL CTVATLRETY GEMADCCAKQ BPERNECFLO
151 HKDDNPNLPR LVREPDVWC TAFHDNEETP LKYLVEIAR RHPYFVAPL
201 LFFAKRYKAA FTECCQAADK AACLPLKDE LRDEGKASSA KORLKASLQ
251 KGERAFKAW AVARLSQRPF KAEFAEVSXL VTDLTKVHTE CCHGDLLECA
301 DRADLAKYI CENQDSISSK LKCCCEKPLL EKSHCIAEVS NDEMPADLPS
351 LAADFVESKD VCKNYAEAKD VFLGMFLYEV ARRHDPYSVV LLLRLAKTYE
401 TTLEKCCAAA DPHECYAKVF DEFKPLVEEP QNLIKQNCCL FEQLGEYKFO
451 NALLVRYTKK VPQVSTPTLV EVSRNLGKVG SKCCCKHPEAK RMPCAEDYLS
501 VVLNQLCVLH EKTVPVSDRVT KCCTESLVNR RCFSALEVD ETVYVPKEFNA
551 EFTTFHADIC TLSEKERQIK KQALVELVK HKPKATKEQL KAVMDDFAAF
601 VEKCCVADDK ETCFAEKK LVAASQAALG L
!!AA SEQUENCE 1.0
ID AAE30921 standard; Protein; 264 AA.
XX
AC AAE30921;
XX
DT 24-FEB-2003 (first entry)
XX
DE Val8-GLP-1-Immunoglobulin G1 (IgG1) fusion protein.
XX
KW Human; glucagon-like peptide 1; GLP-1; albumin; immunoglobulin; Ig;
KW therapy; non-insulin diabetes mellitus; obesity; antidiabetic;
KW anorectic; fusion protein.
XX
OS Chimeric - Homo sapiens.
OS Chimeric - Unidentified.
XX
PN WO200246227-A2.
XX
PD 13-JUN-2002.
XX
PF 29-NOV-2001; 2001WO-US43165.
XX
PR 07-DEC-2000; 2000US-251954P.
XX
PA (ELIL) LILLY & CO ELI.
XX
PI Glaesner W, Micanovic R, Tschang SR;
XX
DR WPI; 2003-018534/01.
XX
PT Novel heterologous fusion protein, useful for treating non-insulin
PT dependent diabetes mellitus or obesity, comprises a glucagon-like
PT peptide 1 compound fused to human albumin or to the Fc portion of an
PT immunoglobulin -
XX
PS Example 6; Page 82; 200pp; English.
XX
CC The invention relates to a heterologous fusion protein comprising a
CC first polypeptide fused to a second polypeptide, where the polypeptides
CC has a N-terminus and a C-terminus and the first polypeptide is a glucagon
CC -like peptide 1 (GLP-1) compound and the second is a human albumin or its
CC peptide 1 compound fused to human albumin or to the Fc portion of an
CC immunoglobulin -
XX

CC analogue or fragment, or the Fc portion of an immunoglobulin (Ig) or its
CC analogue or fragment, where the C-terminus of first polypeptide is fused
CC to the N-terminus of the second polypeptide. The invention is useful for
CC normalising blood glucose levels in mammal, for treating a patient with
CC non-insulin diabetes mellitus or obesity, or for the manufacture of
CC medicament for treating the above mentioned diseases. The present
CC sequence is GLP-1 fusion protein.
XX
SQ Sequence 264 AA;
AAE30921 Length: 264 January 22, 2004 18:02 Type: P Check: 1960
1 HVEGFTSDV SSYLEGQAAK EFTAWLVKGR GAEPKSCDKT HTCPDPAPE
51 LLGSPSVPLF PPKPKDTLMI SRTPEVTCVV VDVSHEDPEV KPNVYQGVZ
101 VHNATKPRE EQNSTYRVV SVLTJLHQM LNKKEYKCV SNKALPAPTE
151 KTISKAKQGP REPOVYTLPP SREMTKNQV SLTCLVKGFY PSDIATVPS
201 NGQPNNTYKT TPPVLDSDGS PFLYSKLTVD KSRWQGNVF SCVWBEALH
251 NHYTQKSLSL SPGK
!!AA SEQUENCE 1.0
ID AAE30922 standard; Protein; 272 AA.
XX
AC AAE30922;
XX
DT 24-FEB-2003 (first entry)
XX
DE Val8-GLP-1-CEX-Immunoglobulin G1 (IgG1) fusion protein.
XX
KW Human; glucagon-like peptide 1; GLP-1; albumin; immunoglobulin; Ig;
KW therapy; non-insulin diabetes mellitus; obesity; antidiabetic;
KW anorectic; fusion protein.
XX
OS Chimeric - Homo sapiens.
OS Chimeric - Unidentified.
XX
PN WO200246227-A2.
XX
PD 13-JUN-2002.
XX
PF 29-NOV-2001; 2001WO-US43165.
XX
PR 07-DEC-2000; 2000US-251954P.
XX
PA (ELIL) LILLY & CO ELI.
XX
PI Glaesner W, Micanovic R, Tschang SR;
XX
DR WPI; 2003-018534/01.
XX
PT Novel heterologous fusion protein, useful for treating non-insulin
PT dependent diabetes mellitus or obesity, comprises a glucagon-like
PT peptide 1 compound fused to human albumin or to the Fc portion of an
PT immunoglobulin -
XX
PS Example 6; Page 82; 200pp; English.
XX
CC The invention relates to a heterologous fusion protein comprising a
CC first polypeptide fused to a second polypeptide, where the polypeptides
CC has a N-terminus and a C-terminus and the first polypeptide is a glucagon
CC -like peptide 1 (GLP-1) compound and the second is a human albumin or its
CC analogue or fragment, or the Fc portion of an immunoglobulin (Ig) or its
CC analogue or fragment, where the C-terminus of first polypeptide is fused
CC to the N-terminus of the second polypeptide. The invention is useful for
CC normalising blood glucose levels in mammal, for treating a patient with
CC non-insulin diabetes mellitus or obesity, or for the manufacture of
CC medicament for treating the above mentioned diseases. The present
CC sequence is GLP-1 fusion protein.
XX

SQ Sequence 272 AA;
 AAE30922 Length: 272 January 22, 2004 18:02 Type: P Check: 5244 ..
 1 HVEGTFSDV SSYLEGQAAK EFLAWLVKGR GSSGAPPPSA RPKSCDKTHT
 51 CPPCPAPELL GGPVFLFPP KPKDTLMISR TPEVTCVVVD VSHEDPEVKF
 101 NWYVDGVEVH NAKTPRREQ YNSYRVVSV LTVLHQDWLN GKEYCKKVS
 151 KALPAFIET ISKAGQPRE PQVTLPPSR EEMTKQVSL TCLVKGFPYS
 201 DIAVEWESNG QPENNYKTFP PVLDSGSGFF LYSKLTVDKS RMQOQNVFSC
 251 SYNHEALHNH YTKSLSLSP GK
 !!AA_SEQUENCE 1.0
 ID AAE30953 standard; peptide; 31 AA.
 AC AAE30953;
 XX
 XX
 DT 24-FEB-2003 (first entry)
 DE Human GLP/exendin peptide analogue #17.
 XX
 XX Human; glucagon-like peptide 1; GLP-1; albumin; immunoglobulin; Ig;
 KW therapy; non-insulin diabetes mellitus; obesity; antidiabetic;
 KW anorectic.
 XX Homo sapiens.
 OS
 XX WO200246227-A2.
 PN 13-JUN-2002.
 PD
 XX
 XX 29-NOV-2001; 2001WO-US43165.
 PF
 XX 07-DEC-2000; 2000US-251954P.
 PR
 XX (ELIL) LILLY & CO ELI.
 PA
 XX Glaesner W, Micanovic R, Tschang SR;
 PI WPI; 2003-018534/01.
 DR
 XX Novel heterologous fusion protein, useful for treating non-insulin
 PT dependent diabetes mellitus or obesity, comprises a glucagon-like
 PT peptide 1 compound fused to human albumin or to the Fc portion of an
 PT immunoglobulin -
 XX
 XX Example 6; Page 91; 200pp; English.
 PS
 XX The invention relates to a heterologous fusion protein comprising a
 CC first polypeptide fused to a second polypeptide, where the polypeptides
 CC has a N-terminus and a C-terminus and the first polypeptide is a glucagon
 CC -like peptide 1 (GLP-1) compound and the second is a human albumin or its
 CC analogue or fragment, or the Fc portion of an immunoglobulin (Ig) or its
 CC analogue or fragment, where the C-terminus of first polypeptide is fused
 CC to the N-terminus of the second polypeptide. The invention is useful for
 CC normalising blood glucose levels in mammal, for treating a patient with
 CC non-insulin diabetes mellitus or obesity, or for the manufacture of
 CC medicament for treating the above mentioned diseases. The present
 CC sequence is human GLP/exendin peptide analogue.
 XX
 XX Sequence 31 AA;
 SQ
 AAE30953 Length: 31 January 22, 2004 18:02 Type: P Check: 7403 ..
 1 HVEGTFSDV SSYLEGQAAK EFLAWLVKGR G
 !!AA_SEQUENCE 1.0
 ID AAE30954 standard; peptide; 31 AA.
 AC AAE31010;
 XX
 XX
 DT 24-FEB-2003 (first entry)
 DE Human GLP-1 analogue, Val8-GLP-1(7-37) OH.
 XX
 XX Human; glucagon-like peptide 1; GLP-1; albumin; immunoglobulin; Ig;
 KW therapy; non-insulin diabetes mellitus; obesity; antidiabetic;
 KW anorectic; mutant; mutein.
 XX Homo sapiens.
 OS Synthetic.
 XX
 XX Key Location/Qualifiers
 FH Misc-difference 2 /note= "Wild type Ala substituted with Val"
 FT
 XX WO200246227-A2.
 XX

AAE30954;
 XX 24-FEB-2003 (first entry)
 XX Human GLP/exendin peptide analogue #18.
 XX Human; glucagon-like peptide 1; GLP-1; albumin; immunoglobulin; Ig;
 KW therapy; non-insulin diabetes mellitus; obesity; antidiabetic;
 KW anorectic.
 XX Homo sapiens.
 OS
 XX WO200246227-A2.
 PN 13-JUN-2002.
 PD
 XX
 XX 29-NOV-2001; 2001WO-US43165.
 PF
 XX 07-DEC-2000; 2000US-251954P.
 PR
 XX (ELIL) LILLY & CO ELI.
 PA
 XX Glaesner W, Micanovic R, Tschang SR;
 PI WPI; 2003-018534/01.
 DR
 XX Novel heterologous fusion protein, useful for treating non-insulin
 PT dependent diabetes mellitus or obesity, comprises a glucagon-like
 PT peptide 1 compound fused to human albumin or to the Fc portion of an
 PT immunoglobulin -
 XX
 XX Example 6; Page 91; 200pp; English.
 PS
 XX The invention relates to a heterologous fusion protein comprising a
 CC first polypeptide fused to a second polypeptide, where the polypeptides
 CC has a N-terminus and a C-terminus and the first polypeptide is a glucagon
 CC -like peptide 1 (GLP-1) compound and the second is a human albumin or its
 CC analogue or fragment, or the Fc portion of an immunoglobulin (Ig) or its
 CC analogue or fragment, where the C-terminus of first polypeptide is fused
 CC to the N-terminus of the second polypeptide. The invention is useful for
 CC normalising blood glucose levels in mammal, for treating a patient with
 CC non-insulin diabetes mellitus or obesity, or for the manufacture of
 CC medicament for treating the above mentioned diseases. The present
 CC sequence is human GLP/exendin peptide analogue.
 XX
 XX Sequence 31 AA;
 SQ
 AAE30954 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..
 1 HAEGTFTSDV SSYLEGQAAK EFLAWLVKGR G
 !!AA_SEQUENCE 1.0
 ID AAE31010 standard; peptide; 31 AA.
 AC AAE31010;
 XX
 XX
 DT 24-FEB-2003 (first entry)
 DE Human GLP-1 analogue, Val8-GLP-1(7-37) OH.
 XX
 XX Human; glucagon-like peptide 1; GLP-1; albumin; immunoglobulin; Ig;
 KW therapy; non-insulin diabetes mellitus; obesity; antidiabetic;
 KW anorectic; mutant; mutein.
 XX Homo sapiens.
 OS Synthetic.
 XX
 XX Key Location/Qualifiers
 FH Misc-difference 2 /note= "Wild type Ala substituted with Val"
 FT
 XX WO200246227-A2.
 XX

PD 13-JUN-2002.
 XX
 XX 29-NOV-2001; 2001WO-US43165.
 XX
 XX 07-DEC-2000; 2000US-251954P.
 XX
 XX (ELIL) LILLY & CO ELI.
 XX
 XX Glaesner W, Micanovic R, Tschang SR;
 XX WPI; 2003-018534/01.
 XX
 XX Novel heterologous fusion protein, useful for treating non-insulin
 PT dependent diabetes mellitus or obesity, comprises a glucagon-like
 PT peptide 1 compound fused to human albumin or to the Fc portion of an
 PT immunoglobulin -
 XX
 XX Example 6; Page -: 200pp; English.
 XX
 XX The invention relates to a heterologous fusion protein comprising a
 CC first polypeptide fused to a second polypeptide, where the polypeptides
 CC has a N-terminus and a C-terminus and the first polypeptide is a glucagon
 CC -like peptide 1 (GLP-1) compound and the second is a human albumin or its
 CC analogue or fragment, or the Fc portion of an immunoglobulin (Ig) or its
 CC analogue or fragment, where the C-terminus of first polypeptide is fused
 CC to the N-terminus of the second polypeptide. The invention is useful for
 CC normalising blood glucose levels in mammal, for treating a patient with
 CC non-insulin diabetes mellitus or obesity, or for the manufacture of
 CC medicament for treating the above mentioned diseases. The present
 CC sequence is human GLP-1 (7-37) OH peptide analogue.
 CC Note: This sequence is not shown in the specification, however it is
 CC constructed based on human GLP-1 (7-37) OH peptide sequence shown as
 CC SEQ ID NO:1 (AAE30904) in page 7 of the specification.
 XX
 XX Sequence 31 AA;
 SQ
 AAE31010 Length: 31 January 22, 2004 18:02 Type: P Check: 7403 ..
 1 HVGGTTSV SSYLEGQAAK EPIAWLVKGR G
 !!AA SEQUENCE 1.0
 ID AAE31011 standard; peptide; 31 AA.
 XX
 XX AAE31011;
 XX
 XX 24-FEB-2003 (first entry)
 XX
 XX Human GLP-1 analogue, Gly8-GLP-1(7-37) OH.
 XX
 XX Human; glucagon-like peptide 1; GLP-1; albumin; immunoglobulin; Ig;
 KW therapy; non-insulin diabetes mellitus; obesity; antidiabetic;
 KW anorectic; mutant; mutein.
 XX
 XX Homo sapiens.
 OS Synthetic.
 XX
 XX Key Location/Qualifiers
 FH
 FT Misc-difference 2 /note= "Wild type Ala substituted with Gly"
 FT
 FT WO200246227-A2.
 PN
 XX
 XX 13-JUN-2002.
 PD
 XX
 XX 29-NOV-2001; 2001WO-US43165.
 XX
 XX 07-DEC-2000; 2000US-251954P.
 XX
 XX (ELIL) LILLY & CO ELI.
 XX
 XX Glaesner W, Micanovic R, Tschang SR;
 XX WPI; 2003-018534/01.
 XX
 XX Novel heterologous fusion protein, useful for treating non-insulin
 PT dependent diabetes mellitus or obesity, comprises a glucagon-like
 PT peptide 1 compound fused to human albumin or to the Fc portion of an
 PT immunoglobulin -
 XX
 XX Example 6; Page -: 200pp; English.
 XX
 XX The invention relates to a heterologous fusion protein comprising a
 CC first polypeptide fused to a second polypeptide, where the polypeptides
 CC has a N-terminus and a C-terminus and the first polypeptide is a glucagon
 CC -like peptide 1 (GLP-1) compound and the second is a human albumin or its
 CC analogue or fragment, or the Fc portion of an immunoglobulin (Ig) or its
 CC analogue or fragment, where the C-terminus of first polypeptide is fused
 CC to the N-terminus of the second polypeptide. The invention is useful for
 CC normalising blood glucose levels in mammal, for treating a patient with
 CC non-insulin diabetes mellitus or obesity, or for the manufacture of
 CC medicament for treating the above mentioned diseases. The present
 CC sequence is human GLP-1 (7-37) OH peptide analogue.
 CC Note: This sequence is not shown in the specification, however it is
 CC constructed based on human GLP-1 (7-37) OH peptide sequence shown as
 CC SEQ ID NO:1 (AAE30904) in page 7 of the specification.
 XX
 XX Sequence 31 AA;
 SQ

XX Novel heterologous fusion protein, useful for treating non-insulin
 PT dependent diabetes mellitus or obesity, comprises a glucagon-like
 PT peptide 1 compound fused to human albumin or to the Fc portion of an
 PT immunoglobulin -
 XX
 XX Claim 80; Page -: 200pp; English.
 XX
 XX The invention relates to a heterologous fusion protein comprising a
 CC first polypeptide fused to a second polypeptide, where the polypeptides
 CC has a N-terminus and a C-terminus and the first polypeptide is a glucagon
 CC -like peptide 1 (GLP-1) compound and the second is a human albumin or its
 CC analogue or fragment, or the Fc portion of an immunoglobulin (Ig) or its
 CC analogue or fragment, where the C-terminus of first polypeptide is fused
 CC to the N-terminus of the second polypeptide. The invention is useful for
 CC normalising blood glucose levels in mammal, for treating a patient with
 CC non-insulin diabetes mellitus or obesity, or for the manufacture of
 CC medicament for treating the above mentioned diseases. The present
 CC sequence is human GLP-1 (7-37) OH peptide analogue.
 CC Note: This sequence is not shown in the specification, however it is
 CC constructed based on human GLP-1 (7-37) OH peptide sequence shown as
 CC SEQ ID NO:1 (AAE30904) in page 7 of the specification.
 XX
 XX Sequence 31 AA;
 SQ
 AAE31011 Length: 31 January 22, 2004 18:02 Type: P Check: 7373 ..
 1 HGGTTSV SSYLEGQAAK EPIAWLVKGR G
 !!AA SEQUENCE 1.0
 ID AAO19585 standard; peptide; 37 AA.
 XX
 XX AAO19585;
 XX
 XX 13-FEB-2003 (first entry)
 XX
 XX Mammalian GLP-1(1-37).
 XX
 XX Mammal; GLP-1; glucagon-like peptide-1; insulin resistance; diabetes;
 KW atherosclerotic cardiovascular disease; congestive heart failure;
 KW antidiabetic; antiarteriosclerotic; cardiant.
 XX
 XX Mammalia.
 OS
 XX WO200285406-A1.
 PN
 XX
 XX 31-OCT-2002.
 PD
 XX
 XX 24-APR-2002; 2002WO-US13088.
 PF
 XX
 XX 24-APR-2001; 2001US-285699P.
 PR
 XX
 XX (REST-) RESTORAGEN INC.
 PA
 XX
 XX Holst JJ, Olesen MZ, Hathaway DR;
 PI
 XX
 XX WPI; 2003-046959/04.
 DR
 XX
 XX Treatment of insulin resistance-associated conditions, e.g. type-2
 PT pre-diabetes, ASCD, drug-induced insulin resistance, congestive heart
 PT failure or diminished exercise capacity, comprises administration of
 PT GLP-1 -
 XX
 XX Disclosure; Page 10; 60pp; English.
 PS
 XX
 XX The present invention relates to a method of treating insulin
 CC resistance-associated conditions comprising administration of
 CC glucagon-like peptide-1 (GLP-1). The method is useful for treating
 CC insulin resistance-associated conditions, especially type-2 pre-diabetes,
 CC atherosclerotic cardiovascular diseases (ASCD), drug-induced insulin
 CC resistance (especially glucocorticoid- or growth hormone-induced),
 CC congestive heart failure (not associated with toxic hypervolemia),
 CC diminished exercise capacity of skeletal muscle and left ventricular

CC dysfunction with cardiac metabolic myopathy or diminished exercise
CC capacity of skeletal muscle. The present sequence is a mammalian GLP-1
CC peptide.

XX Sequence 37 AA;

AAO19585 Length: 37 January 22, 2004 18:02 Type: P Check: 2897 ..

1 HDEFERHAEG TTTSDVSSYL EQQAKEPIA WLKGRG

!!AA SEQUENCE 1.0

ID AAO19587 standard; peptide; 31 AA.

XX AC AAO19587;

XX DT 13-FEB-2003 (first entry)

XX DE Mammalian GLP-1 (7-37).

XX KW Mammal; GLP-1; glucagon-like peptide-1; insulin resistance; diabetes;
XX KW atherosclerotic cardiovascular disease; congestive heart failure;
XX KW antidiabetic; antiarteriosclerotic; cardiant.

XX OS Mammalia.

XX PN WO200285406-A1.

XX PD 31-OCT-2002.

XX PF 24-APR-2002; 2002WO-US13088.

XX PR 24-APR-2001; 2001US-285699P.

XX PA (REST-) RESTORAGEN INC.

XX PI Holst JJ, Olsen MZ, Hathaway DR;

XX DR WPI; 2003-046959/04.

XX PT Treatment of insulin resistance-associated conditions, e.g. type-2
XX PT pre-diabetes, ASCD, drug-induced insulin resistance, congestive heart
XX PT failure or diminished exercise capacity, comprises administration of
XX GLP-1

XX BS Disclosure; Page 10; 60pp; English.

XX CC The present invention relates to a method of treating insulin
XX CC resistance-associated conditions comprising administration of
XX CC glucagon-like peptide-1 (GLP-1). The method is useful for treating
XX CC insulin resistance-associated conditions, especially type-2 pre-diabetes,
XX CC atherosclerotic cardiovascular diseases (ASCD), drug-induced insulin
XX CC resistance (especially glucocorticoid- or growth hormone-induced),
XX CC congestive heart failure (not associated with toxic hypervolemia),
XX CC diminished exercise capacity of skeletal muscle and left ventricular
XX CC dysfunction with cardiac metabolic myopathy or diminished exercise
XX CC capacity of skeletal muscle. The present sequence is a mammalian GLP-1
XX CC peptide.

XX SQ Sequence 31 AA;

AAO19587 Length: 31 January 22, 2004 18:02 Type: P Check: 7361 ..

1 HAEGTTSDV SSYLEGQAQK EPIAWLVKGR G